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ABSTRACT

This book includes ideas, strategies, techniques, and lessons for the inclusion of students with mild disabilities in regular classes (grades 6 through 12). An introduction discusses inclusion in the context of federal legislation, the continuum of services model, essential personnel, and inclusion models. The first section of the main text suggests adaptive techniques including instructional adjustments of time and the learning environment, textbook adaptations, readability reduction, tape recording, assignment adaptation, study guide adaptation, contracts, student motivation, and test adaptation. The second section looks at compensatory instruction, techniques, and materials in the subject areas of language arts, mathematics, and vocabulary. Section 3 addresses remedial instruction, with information on using modularized instruction for remediation, questions to ask about reading, remedial spelling suggestions, remedial written expression suggestions, and remedial instruction techniques and materials. The last section offers suggestions for teaching survival skills, including ways to improve textbook reading, utilize paragraph structure, develop consumer mathematics skills, take notes, and learn instant study skills. An appendix provides an Americans with Disabilities Act compliance checklist, information on complaint and enforcement procedures under federal law, and a variety of sample forms for teacher use. (DB)

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exceptions

A Handbook of Inclusion Activities for Teachers of Students at Grades 6-12 With Mild Disabilities

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exceptions

A Handbook of Inclusion Activities for Teachers of Students at Grades 6-12 With Mild Disabilities

By

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Preface

You Know Where—A Cautionary Tale

It seems the town of You Know Where grew almost overnight!
It had a filling station, a store, and traffic light.
The children read part of the time (it's not that they weren't smart),
but there was not a school to give their learning a good start.
Parents knew about that Law, 94-142;
regardless of the childrens' skills they should know what to do.
The law was clear in schools in every town across the nation:
Each child was to receive a free and proper education.
And so the little school began, with courses for each skill,
and all the parents sent their young to learn each day . . . until
a family from another town moved in, with twins in tow.
It wasn't long before the teachers said the twins were "slow."
"They can't keep up," one teacher said, "although they both are trying.
They seem to be quite smart, you see, of that there's no denying."
But one can't write, though he can draw; the second is a whiz
at math, but he can't read . . . . I don't know **what** the problem is!"
The school board met time and again, each meeting it was tabled,
until the testing finally showed: the boys were both disabled!

The label stuck. So were the twins, for there were no adaptations
for showing different ways of reading or for doing fractions.
The parents called for special means of dealing with their boys,
they ranted and they raved but still the board ignored the noise.
"Just because our children get up for school each day
doesn't mean their needs are being met along the way.
We parents, too, have rights, you know, a sometimes silent voice—
but if you don't take care of this, due process is our choice!"

And then the teachers told the board that they thought there were others
who couldn't write or read or spell . . . it wasn't just the brothers.
"We don't know what to do with this," the board members confided,
"We can't keep holding meetings where nothing is decided.
We need some different teachers, with special college training,
to tell us if our children are left- or right-side braining."
"Be careful," warned the parents, "new teachers sound just fine,
if you make sure they teach the same to your kids and to mine.
While we agree the law's the law, let's look at the intent:
Appropriate is the key word, and that's just what is meant!

The special teachers soon were hired, **all** children began learning.
The parents and the teachers smiled because they'd been discerning.
The school board, too, was satisfied—there was no more defiance.
Because of Section 504, they now were in compliance!

The lesson of this little tale is simple in its thought:
Children can't be overlooked for easy answers sought.
And if you try inclusion without a thoughtful air,
watch out . . . you might end up in court or even You Know Where!

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Introduction

This book is dedicated to those teachers who strive to provide a quality educational program to all learners and to those administrators who seek to obey both the letter and the intent of the law in regard to the education of Americans with disabilities. This handbook is designed to provide regular classroom teachers with field-tested strategies and practices that promote success for mildly disabled learners as well as for their nondisabled peers. *Exceptions* is directed toward assisting those regular classroom teachers to make adaptations that allow all students in the classroom to be included in such a way that they can achieve success. While there may be exceptional students, there are no exceptions to the laws against discriminatory practices.

Public Law 94-142 assured individuals with disabilities that they would be educated with their peers in the regular classroom to the fullest extent possible. P.L. 94-142 has two very important things to say about the **least restrictive environment**:

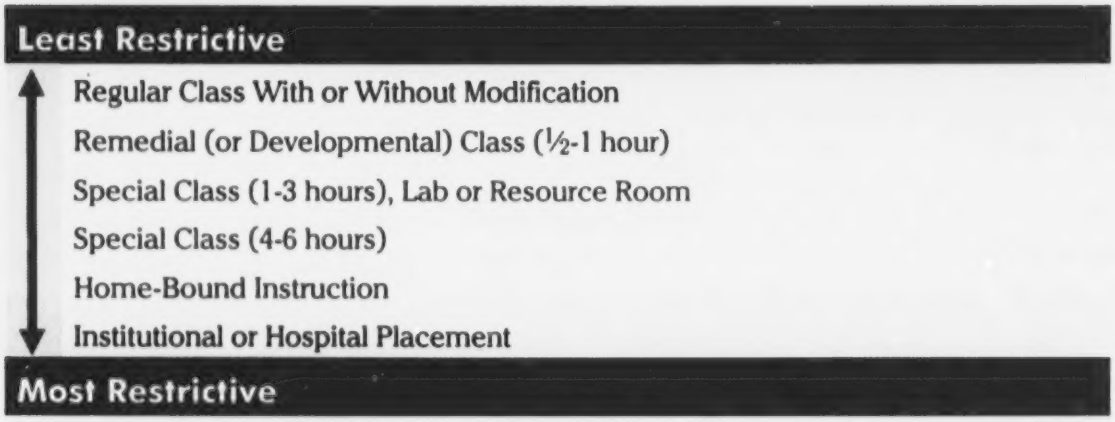
- To the maximum extent appropriate, disabled students are educated with students who are not disabled; and
- Special classes (or special class placement) occur only when the nature of severity of the disability is such that education in regular classes with the use of supplementary aids and services cannot be achieved satisfactorily.

P.L. 94-142 has not been repealed, rather it has been strengthened by the Americans with Disabilities Act (ADA) and the Individuals with Disabilities Education Act (IDEA). Therefore, plans for **inclusion** of students with disabilities must be approached with care and deliberation. Inclusive schools can create better academic and social outcomes for all students involved. However, inclusion is not a **cheap fix** nor does it suggest that schools can dispense with special education services. A continuum of educational services must remain available for students with special needs.

The key to educational planning remains what is **most appropriate** in the **least restrictive environment**. The term appropriate means that the educational program should be based not only upon categorical guidelines, but also grades, previous academic performance, social development considerations, and high expectations for success. The least restrictive educational environment remains the regular classroom where most students with disabilities can succeed. This does not imply that the students will succeed without teachers who are willing and competent to make modifications and adaptations to create a learning climate where success is expected. Nor does it imply that teachers are left to accomplish this enormous task without support. Teachers have a right to expect administrative support in the form of special education services and professional development opportunities. In fact, these laws do tell us that schools collectively, and teachers individually, are to be held accountable for providing a free, appropriate, and nondiscriminatory education to all Americans.

Figure 1 represents a continuum of services that have traditionally been available for students with disabilities.

FIGURE 1


Least Restrictive
Regular Class With or Without Modification
Remedial (or Developmental) Class (½-1 hour)
Special Class (1-3 hours), Lab or Resource Room
Special Class (4-6 hours)
Home-Bound Instruction
Institutional or Hospital Placement
Most Restrictive

The educational team, which naturally includes the parents, should deliberate carefully before recommending placement outside the regular classroom either with or without modifications. Before other placement options are to be considered, the regular classroom teacher and school team must document that specific modifications and adaptations have been attempted, their duration, and the outcome. The school team should be thoroughly familiar with the requirements for compliance with ADA as well as the complaint and enforcement procedures associated with ADA and IDEA (see the Appendix).

The remedial class, also known as the developmental class, was historically meant for students with mild disabilities who needed special help in a specific area for a small portion of the school day. Remedial reading classes typify this placement option. Remedial classes may contain students with disabilities as well as students who have not been categorically identified, but who need developmental or remedial assistance in a specific area.

The special lab or resource classroom provides educational programming by a specialist trained to work with students with disabilities. This option may be the least restrictive environment for students whose disabilities impede the learning process. However, in general, schools must try educating mildly disabled students with their nondisabled peers whenever possible. The special educator often works with the regular classroom teacher to construct an environment conducive to success. This may involve team teaching or consultative services.

Special class placement, which is more restrictive than lab or resource room placement, may be required for students whose disabilities demand a great deal of personal attention and individualized instruction. Those students with more severe disabilities may receive elective classes in the regular classroom setting. However, regular classroom teachers should expect to receive support in the form of professional development, educational assistants, and modifications to the curriculum or the environ-

ment to accommodate these students so that both the students and teachers can have expectations of success.

Although home-bound instruction is far more restrictive, it is still a viable option for some students who are not physically or emotionally able to handle a full day of school, even in a modified environment. This type of instruction is usually responsive to acute situations or for short durations.

Institutional or hospital placement must remain an educational option in the full continuum of services to individuals with disabilities. This recommendation would obviously be reserved for students who have very specialized needs that cannot be met in less restrictive settings. Examples of short-term hospitalization needs include severe medical and psychiatric problems.

An important factor to remember about these laws is that decisions concerning the type and amount of specialized programming for students with disabilities is not determined by one individual. Rather, a team composed of regular educators, special educators, a school psychologist or psychometrist, administrators, and the parents must make the decision together. These decisions must be based on documented evidence as determined by observation and formal and informal data. The regular educator's viewpoint is crucial, and includes classroom observations as well as modifications utilized to date as well as recommendations for the future.

Figure 2 describes the minimum of school personnel that should be represented on the placement team and some of the possible roles that these individuals may perform to facilitate the process. Parents, although not listed, are an important advocate for their children, and are essential to the process. All decisions must be made according to the best interests of the children in question and should not be based upon existing educational structures.

FIGURE 2

Personnel	Role
Administrator	1. Encourages teacher participation 2. Allocates teacher time 3. Assists in scheduling meetings 4. Mediates parent-teacher discussion
Special Teacher	1. Schedules meetings 2. Principle author of Individual Education Plan (IEP) 3. Communicates with regular teachers prior to meeting 4. Initiates follow-up communication
Regular Teacher	1. Provides input on IEP objectives 2. Learns about strengths, weaknesses, and learning style of the student 3. Works with special teacher throughout the year
Diagnostician	1. Provides test data and written report 2. Interprets test results in understandable language 3. Supplies input on an appropriate program for the student

Schools that have effective inclusion programs are characterized first of all by administrators who are supportive of the concept. They must encourage involvement by the key players, the participants, in planning the program. They must provide support for the classroom teachers so that all students have an equal opportunity to a quality education. This includes twin concepts that all educational opportunities must be equal while student abilities, interests, motivation, and backgrounds are diverse. The supportive administrator will provide opportunities for regular and special educators, counselors, and other professionals to work together to problem solve and develop programs of excellence.

Some inclusion models allow for team teaching involving the regular and special educator. Other models use a consultation model whereby the special education teacher assists with modifications to allow students with mild disabilities to succeed in the regular classroom. Some schools also use tutors in the classroom to assist with the recommended adaptations. Others maintain the resource room to provide more intensive assistance for a designated class time. Although there are many successful inclusion models, none of them have become successful by eliminating special educators. These professionals become more important as increasing numbers of students with disabilities are included in the regular curriculum. The law is very clear that inclusion does not mean that students with disabilities must sink or swim alone, but rather the whole school must cooperate to provide educational excellence.

Exceptions was created to assist regular and special educators, working together, to make adaptations that allow exceptional students to succeed. This handbook is divided

into four sections: Adaptive Techniques, Compensatory Techniques, Remedial Instruction, and Survival Skills, plus an Appendix of reproducible materials.

The Adaptive Techniques section provides field-tested suggestions to help students master the content of the regular curriculum. The Compensatory Techniques section includes strategies that students can learn to use to compensate for their disabilities. The Remedial Instruction section provides some suggestions for reteaching, while the Survival Skills section provides information that will help students to survive in the school environment.

The Appendix contains an ADA compliance checklist; complaint and enforcement procedures related to ADA and IDEA; sample communication devices, such as progress reports and checklists; as well as material for developing some the activities in this handbook.

Exceptions: A Handbook of Inclusion Activities for Teachers of Students at Grades 6-12 With Mild Disabilities evolved from ideas, strategies, techniques, and lessons used by regular and special educators across the nation. When implemented, these field-tested suggestions can have a powerful impact on students with mild disabilities without totally disrupting teaching styles or requiring inordinate amounts of teacher time. In some communities teachers have received help in creating adaptive forms of textbooks and study guides from local service organizations such as Lions Clubs, AARP, Pilot Club, etc. Other school communities have hired adults who coordinate with teachers to tape record, make adaptive study guides, or color code textbooks. Most teachers who have tried *Exceptions* are "sold" because the students in their classrooms can demonstrate that they have learned the specific content. This improvement pleases not only the teachers, who genuinely want the students to learn, but also school principals, superintendents, and the parents. This, of course, makes school boards happy because there are fewer complaints and test scores go up! Hope it works for your exceptions!

Section 1

Adaptive Techniques

Adaptive Techniques

The regular classroom teacher can use the techniques described in this section to enable all types of learners to function in class. Some students may require assistance in simply reading the textbook or organizing the content, while others may need to have tests adapted in order to demonstrate mastery of the material.

There are four basic areas in which instructional adjustments can be made in regular classrooms. These are time, learning style, learning environment, and content.

This section represents an effort to summarize some ideas for working with different learners in the regular classroom. The list is by no means exhaustive; teachers are encouraged to generate and try additional ideas.

Each of these ideas has been used successfully by teachers. Every teacher will likely find some ideas he/she can use in the classroom, but not every idea will appeal to every teacher. The variety of techniques offered makes it possible for any teacher to find several ideas which will be useful with most students.

Instructional Adjustments

Time

Some students have not learned to work at the pace set in most regular classrooms. They may need some initial adjustments while they are learning to adapt. Others cannot work at this pace due to their disabilities (e.g., visual impairments, reading disabilities, or other learning disabilities, etc.). The teacher can adjust work time for the special student by:

- Allowing the student to work at a reading or writing assignment for short periods of time, followed by another type of activity. Many students cannot give full concentration to a task for more than 10-15 minutes.
- Setting up a specific schedule for the class so the students know what to expect; try to forewarn them if you have to change or vary their routine. Some students require this type of structure, others do not. Teacher observations of behavior can help identify those students who need structure.

- Giving the student more overall time to complete assignments.
- Gradually lengthening work periods as the student begins to cope.
- Alternating quiet and active time; having short periods of each; making movements as purposeful as possible.

Learning Style

Every student has a preferred mode for learning. Some learn best by hearing (auditory), others by seeing (visual), and yet others by touching and moving (kinesthetic). The school psychologist, psychometrist, diagnostician, or examiner should have some information about students' preferred learning styles. The special teacher will often know how his/her students can and cannot learn. When in doubt with a particular student, ask the student how he/she prefers to learn new information.

Auditory Style

If the student is primarily an auditory learner, adjust the mode of presentation by:

- Giving verbal as well as written directions for assignments.
- Taping important reading material for the student to listen to as he/she reads a passage. Tape only essential information. A teacher or another student might do the taping.
- Putting assignment directions on tape so that the student can replay them when necessary.
- Giving oral rather than written tests. The teacher or another student can do this.
- Allowing the student to learn essential information using a tape recorder (i.e., reciting information into the recorder and playing it back).
- Using commercial audio tapes with the class.
- Dictating information into a recorder or to another student.
- Allowing the student to read important information aloud to himself/herself or to another student.

Visual Style

If the student is primarily a visual learner, adjust the mode of presentation by:

- Using flash cards printed in bold, bright colors.
- Having the student try to visualize words or information in his/her head.
- Providing visual clues on the chalkboard for all verbal directions.
- Having the student write down notes and memos to himself/herself concerning important words, concepts, and ideas.

- Giving written directions for assignments.
- Allowing the class to read information required for assignments rather than relying on oral presentations.
- Having the student drill and study by the cover/write method.
- Having a visual learner read to an auditory learner.
- Allowing written reports or projects in lieu of oral presentations.

K*inesthetic Style*

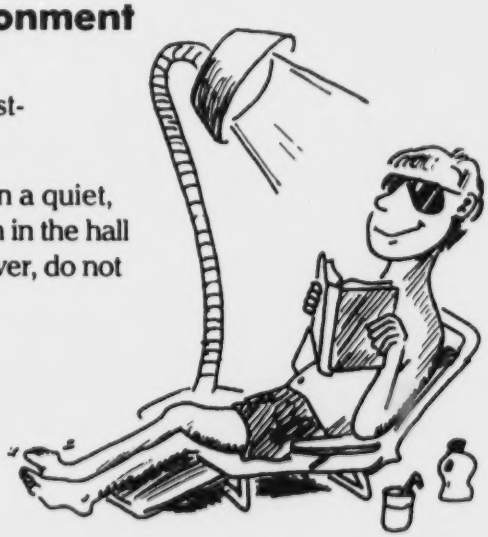
If the student primarily learns by moving or touching, adjust the mode of presentation by:

- Using classroom demonstrations when possible.
- Allowing the student to build models (perhaps instead of writing reports).
- Using role-play or simulations (especially in social science courses).
- Teaching the student to take notes.
- Allowing the student to draw, doodle, etc., while he/she is listening.
- Allowing the student to move about (within reason) during class or while working.
- Using timelines for historical dates.
- Using manipulative objects, especially in math, and especially when teaching abstract concepts such as fractional parts, measurement, and geometry.
- Allowing alternatives to written reports such as drawings, filmstrips, dramatizations, performing experiments, displays, etc.

Learning Environment

Some students do not function well in the traditional classroom. A student may require adjustments in the learning setting, such as:

- Permitting the student to do his/her work in a quiet, uncrowded corner of the classroom or even in the hall outside the room if he/she chooses. However, do not isolate the student against his/her will.
- Placing the student close to you for more immediate help when needed.



Content

Many students are overwhelmed by the sheer volume of material to be learned. This is often due to a slow reading rate or low reading comprehension. Adjust the type, difficulty, amount, or sequence of material required for the student by:

- Giving the student a lesser amount than the rest of the class (i.e., fewer math problems, fewer pages to read, etc.).
- Breaking the student's assignments down into very short tasks.
- Putting only one or two math problems or study questions on a page.
- Giving only one (or a few) questions at a time during testing.
- Including in assignments only that material which is absolutely necessary for the student to learn.
- Checking (✓) or underlining the textbook passages which contain the most important facts.
- Using markers to designate the beginning and the end of an assignment.
- Using highlighted textbooks.
- Giving the student specific questions to guide reading.
- Showing the exact paragraphs where information can be found.
- Establishing only a few modest goals.
- Developing with the student ways to reach those goals.
- Making certain the student's desk is free from all material except what is required for the current assignment.
- Taking up the student's work as soon as it is completed.
- Giving immediate feedback on tasks or work completed.
- Keeping the number of practice items on any skill to a minimum.
- Changing activities before the student's attention is gone.
- Having on hand alternate and supplementary materials for optional projects.

- Giving students several alternatives in both obtaining and reporting information (e.g., tapes, interviews, reading experiences, projects, etc.).
- Having frequent, even if short, one-to-one conferences.

Adapting Textbooks

Many students may not be able to read quickly enough to keep up with the rest of the class. Others may have poor reading comprehension, and must work extremely hard to remember the most basic facts from a textbook. There are students who can learn the material in a regular secondary school course, but are frustrated by their attempts to read and study the text. They may not study at all because they have found that "it doesn't do any good anyway."

These students have difficulty picking out the main ideas of chapters and other important information that is likely to appear on tests. They have not learned to anticipate the types of questions that a teacher may ask. One technique that can be very valuable to these students is color coding textbooks.

Color Coding

Color coding allows the poor reader to find the essential information while reading the text. The student does not have to "outguess" the teacher, since all the important information is highlighted. The volume of material to be studied is reduced, which reduces the frustration of the poor reader. Studying becomes a worthwhile task once the student knows **what** to study. Students using color coded texts have found that studying does pay, and their study habits and attitudes improve.

Most teachers used some form of color coding while they were in college. The technique utilized here is a bit more structured, and color coding texts does involve a degree of teacher time initially. However, teacher aides or student aides can copy the color scheme into other copies of the text. Once a text is color coded, it remains a very useful, adapted material for several years (until that text is changed), so the return on the initial investment time is high.

Here is a sample color coding system:

Green - vocabulary
Pink - definitions
Yellow - facts, dates, and topic sentences

Three different colors of highlighting pens are required. For this example, green, pink, and yellow pens are specified. With the green pen, highlight the vocabulary words and terms. The pink pen is used to highlight in-text definitions of these terms. The yellow pen is used for facts, names, dates, and other important information. (Topic sentences

usually contain a good summary of important ideas and would thus be highlighted in yellow.) Provide a key in the front of the textbook for the reader as a reference to the color scheme. Always use the same colors so that students will not become confused from one text to the next.

Ideally, the content area instructor will color code the teacher's textbook. This can be done when the teacher is reading the chapter prior to teaching. If another person, such as the resource room teacher, prescriptive teacher, or aide is doing the color coding, the material to be highlighted may come from the questions at the end of the chapter or a study guide provided by the content area teacher.

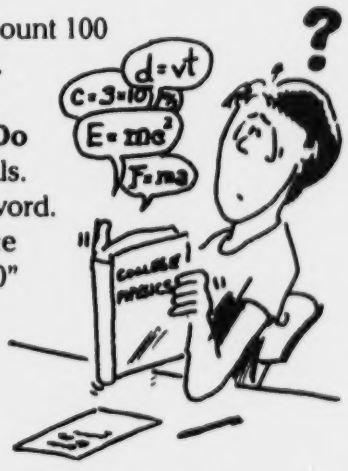
In summary, the advantages of color coding a textbook are:

- It enables the slow or low-level reader to use the standard textbook, thus reducing the need for supplementary materials and singling out the student as "different."
- Color coding makes it visually clear to the student what information is expected for mastery on examinations.
- Color-coded texts provide an excellent guide for test review. All students could be encouraged to use them for review.
- The teacher benefits also, for color coding a text helps in assimilating the information, organizing lectures, and preparing examinations.

Readability (Fry Formula)

Most textbooks are written at a reading level that is higher than the grade level indicated on the text. For example, many ninth grade science texts are written at a college reading level. Teachers do not have to rely on the publisher's estimate of the reading level. Anyone can find the reading level of a class text in about 15 minutes by using the following seven steps:

1. Randomly select three passages from the text and count 100 words in each, beginning at the start of a paragraph. One passage should come from the first part of the book, one from the middle, and one from the end. Do count proper nouns, initials, acronyms, and numerals. Count contractions and hyphenated words as one word. A word is defined as a group of symbols with a space on either side. Thus, "Joe," "IRA," "1945," and "7,000" are each counted as one word.



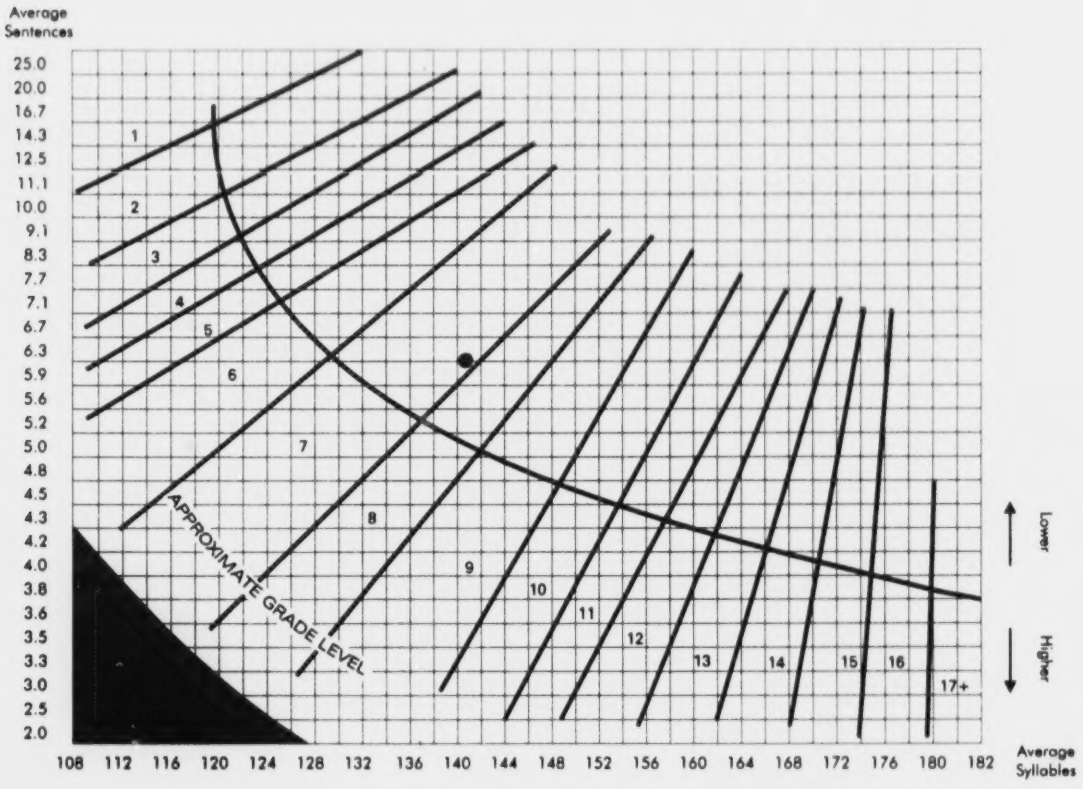
2. For each 100-word passage, count the total number of sentences. Estimate the length of the fraction of the last sentence to the nearest tenth.

3. Count the total number of syllables in each 100-word passage. A syllable is defined as a phonetic syllable. Generally, there are as many syllables as vowel sounds. When counting syllables for numerals and initials, count one syllable for each symbol. For example, "1945" is four syllables, "IRA" is three syllables, "$" is one syllable, and "7,000" is four syllables.
4. Find the average number of sentences for the three passages.
5. Find the average number of syllables for the three passages.
6. Plot the average number of sentences and the average number of syllables on Fry's graph. The area where the dot is plotted will give you the approximate grade level.
7. If a great deal of variability is found in the syllable count or sentence count, use additional passages to find the averages.

Figure 3 provides an example readability calculation and Fry's graph. Figure 4 provides a reproducible worksheet that can be used to summarize the results of the calculations for your own reading selections.

FIGURE 3

Fry's Graph for Estimating Readability (Extended)
By Edward Fry, Rutgers University Reading Center, New Jersey



Grade level scores that fall above the arc on the graph represent **lower** limits of that grade level; those that fall below represent **higher** grade level limits.

Example

	Syllables	**Sentences**
First 100-Word Passage	124	6.6
Second 100-Word Passage	141	5.5
Third 100-Word Passage	158	6.8
Average	**141**	**6.3**

Readability—Lower 7th Grade (See dot plotted on graph.)

FIGURE 4

Fry Readability Formula Summaries

Book Title _____ Publisher _____

Grade Level _____ Copyright _____

Subject _____

Passage	page	start	end	syllables	sentences
1.					
2.					
3.					
			Total		
				+3 _____ average	+3 _____ average
			Readability		

Book Title _____ Publisher _____

Grade Level _____ Copyright _____

Subject _____

Passage	page	start	end	syllables	sentences
1.					
2.					
3.					
			Total		
				+3 _____ average	+3 _____ average
			Readability		

Selections With Less Than 100 Words

The following calculations are useful when gauging the readability of essay test questions, math problems, and brief articles:

1. Count the total number of words in the selection and **round down** to the nearest ten.

   For example:

   > **If there are 45 words in your selection, use only the first 40 to make a count of the number of syllables and sentences.**

2. Count the number of syllables and sentences in the selected words.
3. Multiply the total number of sentences and syllables each by the number in the Conversion Chart shown in Figure 5 that corresponds with the number of words in your selection.

FIGURE 5

Conversion Chart

If the number of words in the selection is:	Multiply the number of syllables and sentences by:
30	3.3
40	2.5
50	2.0
60	1.67
70	1.43
80	1.25
90	1.1

4. Refer to Fry's graph to find the grade level band which indicates the readability level.

Summary

The Fry Formula is recommended because of its simplicity and accuracy, **especially for secondary level materials**. Most publishers of low-readability versions of textbooks use the Spache or Dale-Chall Formula. These formulas usually yield a lower estimate when used on secondary texts. This is due to the fact that they eliminate proper nouns in calculating readability. They also assume that the students have a working sight vocabulary. Elimination of proper nouns is inappropriate for secondary texts, since the students are required to learn those terms.

Students are often assigned reading material in magazines. It is wise to check the readability of any material that is assigned. Some readability levels for popular magazines are as follows (levels may vary with different issues of the periodical):

- *Time*—College Level
- *U.S. News and World Report*—College Level
- *Reader's Digest*—12th Grade
- *Saturday Evening Post*—11th Grade
- *Cycle*—9th Grade
- *Popular Science*—9th Grade
- *Glamour*—8th Grade

Readability cannot be guessed, it must be calculated. Reading studies reveal that teachers consistently underestimate the reading level of written material.

Reducing Readability

Most textbooks are written at a reading level higher than the grade level for which the book is intended. This makes it especially difficult for less able readers to work through the text. Color coding can alleviate many of the problems that a poor reader may have, but occasionally even the color coded text is too difficult. Imagine a ninth grade student reading on the second grade level trying to read a science book which is written at the thirteenth grade reading level. The exercises accompanying the text are written at this same level. Although this student is quite capable of learning the facts and concepts in the course, some adaptation of the materials is necessary in order for this student to successfully read and study. Lowering the readability of a part of the text is one method to assist such students.

The most likely targets for lowering readability are chapter summaries. It takes only a short time to lower the readability of a chapter summary, and many students can use the modified summary for as many years as the text is in use. Teachers may also rewrite certain difficult passages in the margins of the text.

The four main factors which affect the readability of materials are:

1. **Vocabulary**—To eliminate vocabulary problems:
    - Edit to control vocabulary at desired readability by substituting familiar synonyms from word lists. (However, be careful not to "water down" the material and lose interest level.)

- Make a slight revision or add an insertion. It may be necessary to add an extra phrase, sentence, or possibly even a paragraph in order to make an abstract concept more clear.
- Completely rewrite the material to make it easily readable, yet still representative of the writer's intent.

2. **Sentences**—Sentence length and construction influences readability. Long sentences cause more reading difficulty than simple sentences. To eliminate sentence problems, shorten sentences found in the original text. A slight revision may eliminate the problem.
3. **Paragraphs**—The most common paragraph construction has the topic sentence at the beginning of the paragraph. Any deviation from this basic pattern could possibly cause the material to be more difficult to read.
4. **Physical Format**—Often the physical layout of the material on the printed page can affect readability. No formula has provisions to measure the effect of format on readability, but it must be taken into consideration.

   The following items affect format:

   - Print size, type, and clarity
   - Graphic aids
   - Attractiveness of layout
   - Quality of paper

The chart in Figure 6 is an aid for reducing readability to a specific grade level. For example, if you wish to reduce a passage so that it is no higher than fourth grade reading level, you would have no more than ten sentences in each 100-word passage and no more than ten words per sentence. No more than two difficult words (words of three or more syllables) would be included in each 100-word passage. Proper nouns, compound words, and words which are made three-syllable by adding **es** or **ed** are not counted as difficult words.

FIGURE 6

Maximum Grade Level	Maximum Number of Sentences per 100-Word Passage	Maximum Words per Sentence	Total Difficult Words per 100-Word Passage
4	10	10	2
6	7	15	3
8	5	20	5
10	4	25	7
12	3	30	8

The example passages in Figure 7 convey the same information, yet one is written at the college level and the other within the third grade level.

FIGURE 7
College Level

Between Ice Ages

When the Chinese learned, thousands of years ago, that ice enhanced the taste of hot weather beverages, a primitive form of refrigeration emerged. Ice was cut in winter and packed between straw and chaff, for preservation until summer when it was used for cooling beverages.

In Ancient Egypt, similar tastes for cool beverages developed, but a different solution was forthcoming since a more temperate climate kept Egypt ice free even in winter.

Clay jars, filled with water, were placed on rooftops at sundown where the exceptionally dry desert breezes would evaporate the moisture seeping through the porous walls, cooling the water inside.

(Adapted from *A to Zero of Refrigeration*, General Motors Corporation.)

Reduced Readability—Within Third Grade Level

Between Ice Ages

The Chinese learned long ago that ice made hot weather drinks taste better. So they learned how to cool them. Ice was cut in winter and packed in straw. It was kept there until summer and used to cool drinks.

People in old Egypt also enjoyed cool drinks. They found another way to cool drinks, for they had no ice in winter.

They filled clay jars with water and put them on the rooftops when the sun went down. Very dry desert winds would let some of the water get out of the jars. This is called evaporation. It cooled the water inside the jars.

Figure 8 shows an example of a chapter summary with reduced readability. The original passage was written at the ninth grade reading level; the reduced passage is written at the third to fourth grade level. The content remains the same.

FIGURE 8
Ninth Grade Level

Chapter Summary—Main Ideas

Major surface currents begin in the tropics and flow in great circles in each ocean and in each hemisphere. Currents are turned to the west by the trade winds, north and south by the continents, east by the westerlies, and south by the other continents.

Surface currents carry warm waters to some shores. They carry nutrients from place to place.

Deep ocean currents move toward the equator beneath the surface. These currents are cold and dense compared to the surface currents.

Tides on the side of the earth facing the moon are caused by the moon's gravitational attraction. On the far side of the earth, centrifugal force is probably the main cause of tides.

Spring tides occur when the moon, sun, and earth are in line with each other. Neap tides result when the sun and moon are at right angles to each other.

Waves are rhythmic movements of water including tides, tsunamis, and wind waves.

Wave base of deep-water waves is above the ocean bottom. Shallow-water waves form in water that is shallower than half of the wavelength.

Water carried onto the shore by waves returns to the ocean basin because of the pull of gravity.

Waves and currents carve rocky shores into notched cliffs, cut benches, stakes, and caves. Boulders carved from the shore are ground smaller by abrasion. Finally the loose material may be transported to another location.

Shore deposits include beaches, berms, bars, spits, and barrier islands.

Destruction and construction by waves and currents are never ending processes.

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Reduced Readability—Third to Fourth Grade Level

Chapter Summary—Main Ideas

Surface currents start in the tropics. They flow in big circles in each ocean. The trade winds turn the currents west. The continents turn the currents north and south. The westerlies turn the currents east.

Surface currents carry warm waters and nutrients (foods) from place to place.

Deep ocean currents move under the surface. They move to the equator. They are cold and dense.

The moon's gravity causes tides on the side of the earth facing the moon. Centrifugal force causes tides on the other side.

Spring tides happen when sun, moon, and earth are in a line. Neap tides happen when the sun and moon are at right angles.

Waves are moving water in a rhythm. Three kinds of waves are tides, tsunamis, and wind waves.

Wave base is the depth where the motion of the wave stops. It is above the ocean bottom in deep-water waves. Shallow-water waves are in water that is shallower than half the wavelength.

Gravity makes the water in the waves go back to the ocean basin.

Waves and currents can make notched cliffs, benches, stakes, and caves. They can make boulders (big rocks) smaller by abrasion. Loose material can be moved to other places.

Beaches, berms, bars, spits, and barrier islands are all shore deposits.

Destruction (destroying) and construction (building) by waves and currents never ends.

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Tape Recording

Tape recording of content area materials used in the education of secondary level students can be an effective technique. Tapes can make the material presented appropriate for the cognitive and physical characteristics of a learner. For example, an inefficient reader may benefit from an oral presentation of textbook material. To maximize the effectiveness of such tape recordings, several basic principles of organization and presentation should be followed:

- **Editing**—Identify instructional objectives and record verbatim only those passages relevant to the objectives. Summarize or omit other material.
- **Teaching**—The teacher may insert statements in order to demonstrate the use of skimming, illustrations, graphs, comprehension questions, summaries, and other aids. Use the tapes to teach or reinforce good study habits.
- **Motivation**—Students learn best when motivation is high. Motivation can be enhanced by selecting materials of interest to the student. Motivation and interest can be created by an effective introduction or by involving the students in activities or questioning.
- **Marking**—Students may wish to follow along in their texts while listening to the tapes. Therefore, a marking system is required. Following are some suggested markings for the textbook margins:

(SM)	Summarized Material	(STOP)	Stop the tape for activities or to respond to questions
(O)	Omitted Material	(R)	Material recorded verbatim

Tape recording need not be done by the content area teacher. Many civic groups are willing to tape record textbooks—they simply need to be asked. Senior citizen groups are also usually willing to tape materials. High school speech classes, college fraternities, sororities, and residence hall groups could also be contacted about recording.

It is best if tapes are available for listening through headsets in the regular classroom or study hall. The school library may also stock the tapes for listening and/or check out.

Adapting Assignments

Students are often assigned the task of writing reports. Students with difficulties in reading or written expression may turn in partial or incomplete reports, or may not even make an attempt to do a report writing assignment. Report writing is not an easy task for these students, even when they know the material. Other students may experience anxiety when assigned an oral report. If the students are given several options instead of a standard format for reports, they may show greater interest, motivation may be higher, and the teacher may find that the quality of students' reports has improved. Following is a list of 30 different ways for students to make reports.

Report Options—Let Them Do It Their Way!

- **Selling a book, idea, or concept**—The students could try to convince the rest of the class that an idea is the best. For example, two students may try to sell two different views of the same topic and see who can do the best job.
- **Radio broadcasts**—Students could act as news reporters broadcasting descriptions of exciting events into a tape recorder.
- **Panels**—Panels could be formed by several students reporting on the same topic.
- **Character letter exchange**—Correspondence could be exchanged between students playing different characters from textbooks.
- **Letters**—Letters to authors, athletes, politicians, and local community and civic leaders could be written by students.
- **Different endings**—Could the event or story have ended differently? How? Students could answer these questions in their report.
- **Code**—Reports could be written in code with a key included.
- **News Stories**—Students could write the report in newspaper format with headlines and bylines.
- **Illustration**—Students could illustrate a sequence of events or experiments.
- **Critiques**—Students could write reviews on topics, events, or experiments. After these are typed up, a rating system could be developed to rate each.

- **Models**—Students could make models. For example, the capitol of Oklahoma, wireless radio, molecules.
- **Displays**—Students could make displays that correlate with an era, culture, event, or experiment.
- **Murals**—Students could depict sequences of events with murals. For example, the *Trail of Tears* or the birth of a chicken.
- **Large maps**—Students could make a large map that shows the action of their report. (They would then use their maps as they describe the action.)
- **Posters**—Students could make posters to advertise or sell a book to the class. ("Sell" meaning to make the other students **want to read** the book.)
- **Crossword puzzles**—Students could make up a crossword puzzle about the topic. (They would then give a short, oral report and let the class solve their puzzle.)
- **Cartoons**—Students could make a panel cartoon illustrating some humorous part of the story or event.
- **Collages (3-D pictures)**—Students could make collages using seeds, beans, macaroni, shells, grass, branches, twigs, fabric, paper, beads, etc.
- **Filmstrips**— Students could make a filmstrip and show it to the class.
- **"Reading Logs"**—Students could make their own "reading logs" by preparing a three-ring notebook or book with brads that can be opened to add new books. Each time students complete reading a book, they would briefly summarize the book and maybe draw an illustration or paint a scene that would tell others a little about the story. They would then store these inside their "reading logs." Students could make attractive covers for their logs so they will be glad to share them with others in the class, at book fairs, or with their parents.
- **Diaries**—Students could write diaries as if they were characters in a text or they could pretend to visit a famous person and keep a log.
- **Dramatization**—Students could dramatize an interesting or exciting incident from the text for the class.
- **Bulletin board displays**—Students could make a bulletin board display for the classroom or perhaps the school hallway.
- **Comparison**—Students could read two or more accounts of the same event or story and compare the versions.
- **Short plays or scenarios**—Students could write short plays or scenarios incorporating the action of their report.
- **Visual timelines**—Students could develop visual timelines utilizing a biographical sketch or historical events.

- **Demonstrations**—Students could demonstrate by performing experiments and documenting each phase.
- **Travel talk**—Students could tell about a state or county trip using words, pictures, and maps.
- **Mobiles**—Students could make mobiles using pictures or characters from texts.
- **Puppet shows**—Students could perform a puppet show to relate an event or explain a concept.

Filmstrips

One of the above options mentioned filmstrips. Students seem to enjoy making filmstrips instead of writing reports. In addition, study guides, drills, and practice exercises for students needing extra help can be put onto filmstrips. These are motivating for students to study. Accelerated students might put the main ideas from a chapter onto a filmstrip for other students to use.

Most filmstrips have a dull side and a shiny side. Students can type or write with a #2 pencil on the dull side. A regular pencil eraser will erase both type and pencil on the film. A transparency pen can be used on the shiny side of the film. Water-based pen markings can be erased easily, but the colors will run if they become wet. Permanent markers can be erased with hairspray. Along the sides of the filmstrip are holes. Four holes equal one frame. Students will need to leave three frames (12 holes) at the beginning of the filmstrip for a lead-in.

Through the use of filmstrips and slides, students can make more creative, original, and interesting reports. This adaptation helps all students, in addition to providing an option for students with special needs.

Cloze Procedure

The cloze procedure was developed by Wilson Taylor in 1953 and is based upon the psychological theory of closure. This theory states that a person will naturally want to complete any pattern which is not completed.

Use of the cloze procedure will help students develop the ability to handle fill-in-the-blank tests. It motivates students to read a passage more carefully. Practice in using the cloze procedure is especially effective with chapter summaries. It is an excellent technique for improving students' reading skills as well as content area knowledge. Students learn to use context (meaning) clues to identify words.

The cloze procedure is simple to use. The teacher simply copies the passage and omits every seventh word. For simple passages, every fifth word might be omitted, and for more difficult passages, every ninth word might be omitted. The first and last sentences are left intact. The students then attempt to fill in as many of the blanks as they can. Any good synonym is acceptable in students answers.

Other uses of the cloze procedure might include instead omitting:

- Vocabulary terms;
- Parts of speech (e.g., all verbs, all nouns);
- Prefixes and suffixes;
- Historical dates;
- Mathematical concepts and terminology; or
- Proper names and places.

Figure 9 illustrates the cloze procedure with a chapter summary of a seventh grade history text.

FIGURE 9

Master Copy

The Monroe Doctrine

In 1823, President Monroe stated a doctrine that has become a key part of our foreign policy. He said that the Americas were no longer open for the setting up of new European colonies. Thus, our country had won an important place in the world. In these years, the number of our people grew to 23,000,000.

Our frontier moved to the West. Each grew in its own way. In the South, plantation life became most important. In New England and the Middle States, people turned to manufacturing and trade.

More and more people moved west to find new farm lands. These people were hardy. They suffered on the trail as they went west; they fought Indians; they tamed the wilderness. In time, they made new lives for themselves. Thus, better transportation made it easier for East and West to trade and travel.

Cloze Copy

The Monroe Doctrine

In 1823, President _____ stated a doctrine that has become a key part of our _____ policy. He said that the Americas were no longer open for the setting up of new _____ colonies. Thus, our country had won an important place in the world. In these years, the number of our people grew to _____.

Our frontier moved to the _____. Each grew in its own way. In the _____, plantation life became most important. In _____ _____ and the _____ _____, people turned to manufacturing and trade.

More and more people moved west to find new _____ lands. These people were hardy. They suffered on the trail as they went _____; they fought _____; they tamed the _____. In time, they made new lives for themselves. Thus, better transportation made it easier for East and West to trade and travel.

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Maze Procedure

The maze procedure is much like the cloze procedure, but differs in that the student has two or more choices from which to fill in the blanks. This procedure is especially helpful for teachers who utilize the multiple-choice testing format. Through this non-graded activity, students learn to deal effectively with multiple-choice situations.

By having to make a choice, students will also be more likely to attempt to comprehend what they are reading. This procedure is best used with teacher handouts, reviews, and chapter summaries. Figure 10 illustrates the maze procedure with the subject of general business.

FIGURE 10

General Business

While much of the (1)_____ that a secretary handles consists of letters, there may (2)_____ inter-office memorandums, telegrams, reports, and instructions. Each type of (3)_____ requires careful attention to details.

When a letter is (4)_____, the manager will often begin with the salutation and (5)_____ the secretary to locate the address of the person (6)_____ business to whom the letter is written. Generally, the (7)_____ will pass on to the secretary the letter he/she (8)_____ answering, and on it the secretary will find the (9)_____ for the person.

It is very important that the (10)_____ of the addressee be spelled correctly and that the (11)_____ title be used. If the manager is not (12)_____ a letter, he/she may dictate the name and address. (13)_____ such instances, the secretary may want to write the (14)_____ name in longhand to be sure that the name (15)_____ correctly.

1. dictation information addressee	2. to be of	3. secretary spelling correspondence	4. dictated addressed spelled
5. remove expect want	6. and or find	7. manager person single	8. checked are is
9. checked address begin	10. title separate name	11. correct notebook proper	12. spelling answering separate
13. Arise Where In	14. different proper quickly	15. at is spelled will	

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Adapting Study Guides

Many teachers provide study guides for their students. Some of these are to be filled in by the students, others simply summarize the material in an orderly fashion. If possible, study guides should be typed (double-spaced). The page number on which the answers may be found should be noted. Vocabulary words and terms should be underlined.

Beyond these basic guidelines there are numerous ways to create study guides that will help special students. Teachers should pay attention to readability levels when they are constructing study guides. Abstract concepts should be made as clear as possible. Drawings may help visual and kinesthetic learners, although auditory learners may find them difficult.

Several sample study guides are included in Figures 11-13. Study Guide #1 (Figure 11) is a traditional study guide for Oklahoma history that has been adapted by organizing it sequentially, with the page numbers on which the answers may be found indicated.

Study Guide #2 (Figure 12) shows three study guides. The first is the original format of a textbook study guide. The second covers the same content, but has been adapted. The readability has been reduced, and each completion item is on a separate line, making the question more clear. A matching type (alternative format) study guide is also included.

Study Guide #3 (Figure 13) is designed for use by the student. It summarizes the chapters and provides a student study quiz. The student simply covers the right-hand column and tries to answer; then the student checks his/her answers by moving the cover sheet down.

FIGURE 11
Study Guide #1

Chapter 17
Oklahoma History

Page 230

1. When was the name Oklahoma officially used?

   _____

2. What does the name Oklahoma mean?

   _____

Pages 230 and 233

3. What were the provisions of the Enabling Act?

   _____

   _____

   _____

   _____

   _____

   _____

   Note: The Enabling Act required that certain definite provisions (or conditions) be included in the state Constitution.

Pages 236-239

4. What were the provisions to be included in the state Constitution?

   _____

   _____

   _____

   _____

   _____

FIGURE 12
Study Guide #2

Original Format

Name_____ Date_____

D. Completing Ideas

Fill in the following blanks correctly using the listed words.

amorphous	mineraloid
chemical composition	organic
crystalline	oxygen
igneous	rock-formers
lithosphere	sedimentary
luster	silicon
metamorphic	solid
weathering	

At least 88 elements are found on the (1) _____. Of these, (2) _____ is the most abundant and (3) _____ is next most abundant.

Minerals may appear in many shapes. Minerals with visible atomic particles are called (4) _____. A (An) (5)_____ solid, with no recognizable crystal form even when examined with X-ray is properly called a (an) (6)_____. A substance may be a(an) (7) _____, but it is not a mineral if it is formed of (8) _____ material. Minerals have metallic (9) _____if they reflect light. Each mineral has a(an) (10) _____ which within certain limits is always the same for that mineral.

Twelve of the most abundant minerals are called (11) _____. The parent rock from which all others come is (12) _____. Exposure at the surface cause a change in the rocks called (13) _____ to take place. When the changed rocks are reburied, they may become (14) _____ rock. If they are buried so deep that heat and pressure are extreme, they become (15) _____ rocks.

Study Guide #2

Revised Format

Name_____ Date_____

D. Completing Ideas

Fill in the blanks. Use these words.

amorphous	luster	rock-formers
composition	metamorphic	sedimentary
crystal	mineraloid	silicon
igneous	organic	solid
lithosphere	oxygen	weathering

1. The earth's crust is the _____.
2. The most common element is _____.
3. The next most common element is _____.
4. If you can see the atomic pattern, the mineral is a _____.
5. _____ minerals do not have a crystal form.
6. They should be called _____, not minerals.
7. Minerals are always _____.
8. Minerals are not _____.
9. If minerals reflect light, they have metallic _____.
10. Each mineral always has the same _____.
11. Twelve of the common minerals are called _____.
12. All rocks come from _____ rock.
13. _____ changes rocks at the surface of the earth.
14. Rocks that harden near the surface are called _____.
15. Rocks that are changed by great heat and pressure are called _____.

Study Guide #2

Alternative Format

Name_____ Date_____

D. Completing Ideas

Fill in the blanks with the letter of the answer.

_____	1. The earth's crust	A. crystal
_____	2. The most common element	B. mineraloid
_____	3. The next most common element	C. oxygen
_____	4. You can see the atomic pattern	D. lithosphere
_____	5. Does not have a crystal form	E. amorphous
_____	6. Not really minerals	F. silicon
_____	7. Minerals are always_____.	G. organic
_____	8. Minerals are not _____.	H. rock-formers
_____	9. The way light reflects	I. composition
_____	10. Each mineral has the same_____.	J. solid
_____	11. Twelve of the common minerals	K. luster
_____	12. All rock comes from this.	L. sedimentary
_____	13. Changes rocks at the surface	M. rocks
_____	14. Hardens near the surface.	N. igneous
_____	15. Changed by great heat and pressure	O. metamorphic
_____	16. Minerals or mixtures of minerals	P. diamonds
_____	17. The hardest mineral	Q. weathering
_____	18. Minerals are made by	R. streak
_____	19. The color of the mineral powder	S. silicates
_____	20. Important for only a few minerals	T. specific gravity
_____	21. How heavy the mineral is	U. nature
_____	22. Have single chains and break smoothly	V. color
_____	23. The most common minerals	W. pyroxenes

FIGURE 13
Study Guide #3

Understanding the World, Chapter 18 Eastern Europe and Asia	
1. Rulers of Russia	1. Czars
2. Rulers who run the government as they wish	2. Absolute Monarchs
3. Many _____ became serfs	3. Peasants
4. Changing a country so that it is more like Western Europe	4. Westernization
5. A czar who wanted Westernization	5. Peter the Great
6. A czar who gave nobles more power	6. Catherine the Great
7. This czar freed the serfs	7. Alexander II
1. The Southeastern part of Europe	1. Balkans
2. The _____ Empire ruled the Balkans	2. Ottoman
3. Love and loyalty for a country	3. Nationalism
4. These people won their freedom from the Ottoman Empire	4. Greeks
5. The _____ War started between the Russians and the Ottomans	5. Crimean
1. Having little or nothing to do with other countries	1. Isolationism
2. Secret trading that is against the law	2. Smuggling
1. A dangerous drug made from poppies	1. Opium
2. The British beat the Chinese in the _____ War.	2. Opium
3. When one country controls trade in a part of another country	3. sphere of influence
4. A plan that said that all countries could have the right to trade with China	4. Open Door Policy
5. An uprising by the Chinese against foreign people	5. Boxer Rebellion

Contracts

One method of motivating students is through contracts. Some students are not motivated by a grade every nine weeks; they need some type of structure for their day-to-day activities. Following are some guidelines for writing contracts and a sample contract (Figure 14) which can be easily modified.

Guidelines for Writing Contracts

- **The contingency (reward) should be immediate.** This is especially important in the initial stages of contracting. At first, tasks should be small and the reward presented immediately. The length of the task and delay of the reward can be altered as the student becomes successful at completing contracts.
- **Reward frequently with small amounts.** A field trip at the end of the month is not as effective as smaller rewards earned weekly or daily. If a larger reward is used, frequent and small rewards (tokens) which the student can accumulate to earn the large reward are recommended. Partial grades may be used as rewards.
- **The contract should call for and reward accomplishment rather than obedience.** The long-term goal is to eliminate the use of contracts. This is facilitated by rewarding the accomplishment of the student (e.g., five problems worked correctly) rather than his/her obedience. (e.g., "If you do your assignment, ...").
- **Performance should be rewarded only after it occurs.**
- **The contract must be fair.** The reward must be related to the length and difficulty of the task.
- **The terms of the contract must be clear.** Put both the objectives and the reward in concrete, behavioral terms. Ambiguity will defeat the purpose.
- **The contract should be stated in positive terms.**
- **The resources of the home should be used to provide rewards.** Many students can be rewarded by privileges, etc. at home for accomplishments both at home and at school. Working out a contract with the parents is one way to involve them in the student's education.

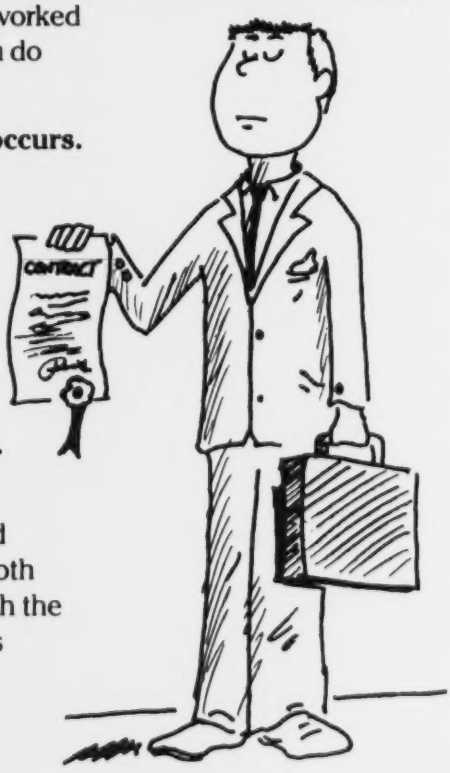


FIGURE 14

Contract

I, _____ will begin the procedure (or activity) indicated below.

I will begin within this next week, the week of _____, and continue the procedure (or activity) through _____, 19_____.

The procedure (or activity) to be implemented is:

_____
_____
_____
_____
_____

Upon completion of this contract, I will receive:

_____
_____
_____
_____
_____

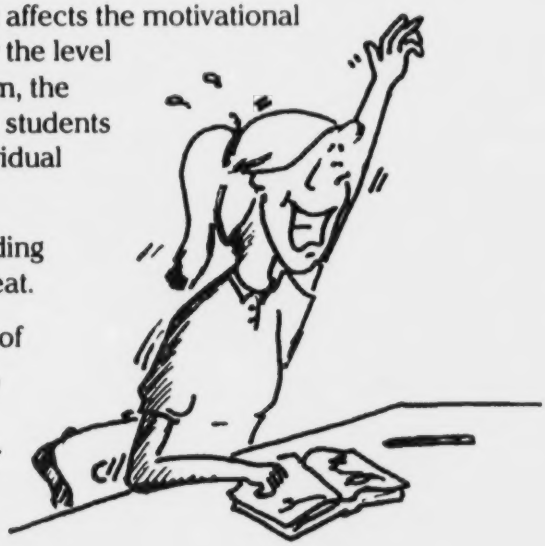
Signed _____ this _____ day of _____, 19_____.

Witnessed by _____ this _____ day of _____, 19_____.

Motivation

All students are not motivated by the same things, and the same student may be motivated by different things on different days. "The Incomplete Sentence Test" (see the Appendix) may be helpful in determining a student's likes and dislikes. Additionally, Dr. R.C. Bradley, Professor of Education at North Texas State University, contends that the following are germane to motivation:

- Poorly motivated students ought to keep many of their own records of progress because they are typically influenced in positive ways by knowledge of the results.
- Students who strive hard in other areas, for example sports, and do not make the showing that they aspired to make suffer motivational loss, and it becomes noticeable in other school areas as well as in daily life patterns.
- Students have higher attendance records in classes where the teacher maintains a classroom atmosphere charged with significant ideas, friendliness, and acceptance; here textbooks are but a source of information, not the total course, where test anxiety is kept to a minimum, and where students truly feel they will be missed if they don't show up.
- Setting personal goals and standards of excellence for themselves increases students' motivation for achievement.
- The types of questions a teacher asks affects the motivational output energy of students. The higher the level of questioning going on in a classroom, the greater the motivational output of the students if those questions are pitched to individual intellectual capacity.



- Competitive classrooms can be breeding grounds for anxiety, despair, and defeat.
- For those who wish to raise the level of aspiration of students who are failing, the only effective means appears to be a series of successful experiences.
- The teacher's attitudes toward self and others are as important, if not more important than techniques, practices, or materials. In short, a teacher with positive attitudes can promote a positive classroom atmosphere, while a teacher with negative attitudes promotes a feeling of negativism within his/her students.

- If teachers prolong their average "wait time" to five seconds before commenting on a student response, length of student responses will increase measurably.
- Teachers tend to motivate students at the beginning of the lesson, rather than in the middle or just a few minutes before the close of the classperiod where motivational techniques are more sorely needed.
- The larger the enlistment of fathers in school functions, the lower the percentage of discipline problems of male students.
- Students who are given "blanket" assignments, with little or no individualization according to their abilities, tend to become anxious about their work and work themselves into states of mind that border on psychological frustration. Stress and tension then mount and weaken their effectiveness on what they do try to do.

Adapting Tests

Some students with reading difficulties may not be able to succeed when presented with a regular class test. Even though they know the material, the awesome task of reading a test, understanding the questions, and giving answers under pressure may be too much for them. They may also need some help with spelling the answers. Some students may need to tape their responses to essay questions instead of writing them. Teachers will be surprised at the improvement in both the achievement and motivation of their students when this simple adaptation is made.

Four factors are important in constructing tests for students. These are test appearance, test format, test length and variety, and test readability.

Test Appearance

Copies should be distinct, clean, and clear. Students require clear, distinct letters, especially those students with reading or visual disabilities. Some students are "purple blind"; that is, they cannot read pages that are run off on a ditto machine.

With regard to text appearance, pay particular attention to the following factors:

- **Ample margins and spacing:**
  - 1 ½" border at top and bottom
  - 1" border on each side, left and right
  - Minimum of two lines/spaces between questions

- **Multiple-choice alternatives should be placed vertically, i.e.:**
  - **Original**

    What is the most effective agent of erosion?

    A) waves and currents B) glaciers C) percolating groundwater D) runoff
  - **Revised**

    What is the most effective agent of erosion?

    a. waves and currents
    b. glaciers
    c. percolating groundwater
    d. runoff

- **Proofread**

  Teachers expect students to hand in papers that are proofread for errors. Students should receive the same consideration. Tests containing errors in spelling, etc., make the task of students much more difficult.

Test Format

With regard to test format, pay particular attention to the following factors:

- CAPITALIZE and underline words such as **always**, **never**, and **not**.
- Alternatives to multiple-choice answers should be brief.
- Avoid negatively stated questions, especially in true-false questions.
- No more than ten items should be included on matching lists.
- Provide short-answer alternatives if you want them spelled correctly.
- Avoid tricky items—they invalidate your test and increase test anxiety.

For students who have difficulty dealing with abstractions or organizing concepts, adapt the test-taking procedure by emphasizing learning by rote (facts in orderly presentation), testing factual information, and avoiding essay exams.

Test Length and Variety

Allow plenty of time if you wish your test to be valid. To determine an appropriate time length, you may ask a colleague to take the test. You would then triple the colleague's time to get an estimate of the proper time limit of the test. However, reading disabled students **may** require more time. Additionally:

- Some students may require the test to be read aloud.
- Use at least three question formats on a major unit test.

Test Readability

With regard to test readability, pay particular attention to the following factors:

- Eliminate unnecessary words, especially in multiple-choice questions.
- Use synonyms when possible.
- Use short sentences.
- Keep the vocabulary terms that the students should know, but make sure that they can read them on sight.

Figure 15 shows an original format sample of a test for ninth grade earth science, and a second version in which the readability has been lowered and the format changed slightly. Notice that vocabulary words and terms are left intact (the test is not "watered down").

FIGURE 15
Original Test

A. Understanding Ideas

Circle the letter in front of the best answer or fill in the blanks.

1. Which two rock classes form under similar conditions?
   a. intrusive igneous and metamorphic
   b. extrusive igneous and metamorphic
   c. sedimentary and intrusive igneous
   d. sedimentary and metamorphic
2. Name two factors that determine which type of metamorphic rock forms.

   _____
3. What are rocks that contain alternate igneous and metamorphic layers called?
   a. sedimentary b. migmatite c. foliated d. dynamic
4. What is the most important source of heat for the formation of metamorphic rock?
   a. heat from the sun b. friction c. decay of radioactive elements
5. What two sources of pressure are associated with metamorphism?

   _____
6. At great depths, unequal pressure is the most important factor in what type of metamorphic change?
   a. metasomatism
   b. pressure alone
   c. recrystallization
   d. intensification
7. Upon what does metamorphic rank primarily depend?
   a. heat alone
   b. pressure alone
   c. heat and pressure
   d. kind of rock involved
8. Where does metamorphism of the highest rank take place?
   a. between sedimentary rock layers
   b. at the bottom of an intruding magma
   c. near the center of mountain building
   d. along earthquake fault lines
9. Under what conditions are minerals which occur only in metamorphic rock formed?
   a. fluids at high temperatures causing exchange of ions
   b. high pressure causing foliation
   c. heat causing enlargement of crystals
   d. earthquakes
10. Which process is not associated with metamorphism?
    a. formation of new minerals
    b. recrystallization
    c. foliation
    d. fusion

Adapted Test

A. Understanding Ideas

Circle the letter in front of the best answer or fill in the blanks.

1. **What kinds of rocks are made in the same environments?**
   a. metamorphic and intrusive igneous
   b. metamorphic and extrusive igneous
   c. sedimentary and intrusive igneous
   d. sedimentary and metamorphic
2. **Name two things that determine the kind of metamorphic rock that forms**

   _____
3. **What rocks have layers of igneous and metamorphic rock?**
   a. sedimentary
   b. migmatite
   c. foliated
   d. dynamic
4. **The most important source of heat for making metamorphic rocks:**
   a. heat from the sun
   b. friction
   c. radioactive decay
   d. pressure
5. **Name two things that cause pressure on rocks:** _____

   _____
6. **Unequal pressure on rocks causes:**
   a. metasomatism
   b. foliation
   c. recrystallization
   d. intensification
7. **Metamorphic rank depends on:**
   a. heat only
   b. pressure only
   c. heat and pressure
   d. the kind of rock

Examples of Test Questions With Lowered Readability

Notice that the original content of the test questions is maintained.

Original	Compare and contrast the personal attributes and characteristics of Huck Finn and Tom Sawyer.
Revised	How are Tom Sawyer and Huck Finn alike? How are they different?

Original	Describe and discuss the probable effects of wage and price controls during periods of inflation.
Revised	What might happen if **wage and price controls** were used during **inflation**?

Original	(T-F) Profitable construction materials originate in sedimentary rock.
Revised	(T-F) Good building materials come from **sedimentary rock**.

Original	(T-F) According to the terms of the Treaty of Paris of 1783 both Britain and the United States agreed to allow the collection of lawful debts owed to creditors of either country.
Revised	(T-F) The *Treaty of Paris* said that both Britain and the U.S. could collect debts from each other.

Original	Describe the rationale behind the southern states making good their threat of disunion in 1860.
Revised	Why did the southern states decide to leave the union in 1860?

Original	The atmospheric condition in which air currents circulate at extremely high velocities in a limited area is called a _____.
Revised	What do you call a very fast wind that is moving in a small circle?

Original	Geysers are produced by what underground conditions?
Revised	What causes geysers?

Original	Crystal Thompson needs insurance for her personal belongings, but not for her residence, since she lives in an apartment. If her annual insurance premium is $63.00, what amount will she have paid in three years?
Revised	Crystal Thompson lives in an apartment and needs to insure her belongings. The insurance premium costs $63.00 a year (annually). How much will she pay in three years?

Original	What ingredients are placed in soap to give it the desired characteristics?
Revised	What is soap made of?

Original	List four environmental requirements for the growth of bacteria.
Revised	List four things bacteria need to grow.

Section 2

Compensatory Techniques

Compensatory Techniques

Compensatory Instruction

Compensatory instruction is a change the teacher makes to assist a student in getting around (compensating for) a particular learning problem. Some students may be able to comprehend the subject matter, but a lack of certain basic skills prevents them from manipulating it. A technique must be found to help these students bypass the disability that stands in the way of learning the material. A person with a broken foot can walk with the aid of crutches, for example; a student who cannot remember multiplication facts can perform arithmetic operations using a technique called finger multiplication (described later in this section), or by using a calculator. Once a teacher provides a student with a compensatory technique or material, that student can function independently in the regular classroom.

This section presents a number of compensatory techniques and materials that have been successfully used to enable students to succeed in the regular classroom.

Compensatory Techniques and Materials

Language Arts

The first thing a regular classroom teacher may notice about a student with learning problems is pronounced difficulties in reading and written expression. In elementary school, the emphasis is on teaching the student "how to" read, write, and spell correctly. In secondary school, mastery of these skills is largely assumed since they are needed as tools to learn in the content areas. For the student who has not learned "how to" adequately, compensatory techniques will be needed to assimilate the content being taught while ongoing remedial instruction continues to focus on the "how to" (see Section 3, "Remedial Instruction").

Many of the adaptive techniques presented in Section 1 are compensatory in nature when being used by a student. Adaptations made by the teacher become compensatory tools for the student, such as relying on a tape recorded version of a textbook to learn rather than reading the book verbatim. Some techniques are quite simple. The student who has difficulty keeping his/her place while reading may be encouraged to place a card under the line of type being read. Another student may need to subvocalize while reading to aid in comprehension and retention. Following are some specific techniques helpful in language arts.

Word Bank

Have the student utilize a spiral notebook as a word bank, or personal dictionary. This compensatory tool allows the student a ready reference to vocabulary words and terms frequently encountered in the classroom. Any time the student encounters an unfamiliar word in the text, it is entered in the word bank along with its definition.

As an example, a student whose reading level was quite low worked with an adaptive curriculum from his science textbook. He was required to define and spell the specialized vocabulary in each chapter. To locate the vocabulary words deemed important by the teacher, he used a color coded textbook. He simply had to find all the words outlined in green and record them in his word bank along with their definitions, which were outlined in pink (see Section 1, "Adaptive Techniques").

Pages in the word bank can be set up by the alphabet or by content areas. The latter may be more appropriate, as each content area may have many technical terms used for that particular subject as well as many common terms which take on specialized meanings in the context of that subject. Figure 16 illustrates an example list of common words which are used with new meanings in specialized content areas. All were taken from secondary school textbooks.

FIGURE 16

Some General Words Used With Special Meaning

Social Studies			
thriving	settlements	revolution	oppression
struggle	enslaved	conquered	empire
militarist	philosophers	tactics	barriers
expansion	tyranny	democracy	clash
genius	geographical	interference	domesticated
compelled	succession	preservation	dominions
Science			
compressed	capacity	mixture	agents
compound	filament	attraction	fusion
applications	repulsion	fluorescent	emulsion
immerse	transparent	nonmetallic	filtration
condensation	parallel	friction	saturated
humidity	resistance	compensate	dehydrated
Mathematics			
rational	inverse	inconsistent	eliminated
solution	product	intercept	determine
coincide	difference	variation	circumference
graphically	connecting	velocity	computing
infinite	inequality	multiple	parenthesis
projection	approximate	conceptual	probability
Business, Industrial Arts, and Vocational Training			
collective	independent	bargaining	authorized
reputable	comprehensive	residential	contending
executing	accumulated	miscellaneous	verification
analysis	commercial	installment	automated
excessive	connecting	resurfacing	lubrication
automatic	arrangements	diagram	processing
Home Economics			
parental	suggestion	fold	standards
encouragement	approval	fashionable	communicable
requirements	contagious	contaminated	utilities
simplifies	budgeting	household	livable
refreshments	centerpiece	harmonize	vegetables
accessories	essential	appliances	guarantee
Literature			
miserable	swaggered	shrieked	vicious
renegade	solemnly	meter	ironically
bridled	audience	colossal	girth
eddied	dulling	magpies	realization
prudence	muttered	sufficed	sodden
retrieved	scamp	thrashed	decadent

Carbon Copy Notes

Have a student in the classroom make a carbon copy of his/her class notes. This will provide the student having difficulty with note taking the opportunity to compare notes with a peer. A special type of carbon paper* that is not messy and is specially designed for handwritten notes is now available.

Spelling Aids

Special students are often very poor spellers. Teachers may allow students to compensate for poor spelling in a variety of ways. Use of a word bank as a reference is a very practical idea. Of course, students using color coded textbooks can quickly locate those words they are expected to spell in content areas.

The reference *How to Spell It* ** can be an invaluable addition to your classroom. Words in the book are listed in black ink as common misspellings, then the correct spelling is given in red ink. For example, there are eleven different misspellings for "broccoli." If a student can even get close, the correct spelling can be found. By using *How to Spell It*, students really **can** look up a word.

The *Instant Spelling Dictionary*, used by many administrative assistants, can also be a tremendous aid to the poor spellers, and it is pocket-sized.

Following is an alternative spelling system which can serve to avoid much of the hostility often generated by a paper full of misspelled words returned with a lot of red ink. The teacher simply allows the student to write "sp" above any word he/she knows is misspelled. If the student isn't sure, he/she could write a "?" above the word. A "?" means, "I think it could be right, but I'm not sure." An "!" written above the word means, "I tried to find this word and it wasn't there—maybe it doesn't exist but it seems to fit."

By using this marking system, a teacher is quickly able to determine which word(s) the student needs to work on, and also teaches the student to monitor his/her own writing. Through the use of this system, most of the hassle and hostility commonly felt by both the student and teacher are effectively defused.

Tape Recording Lectures

Tape recording of textbooks was mentioned as an adaptive technique in Section 1. Similarly, by using a tape recorder to record class lectures, the student can compensate for his/her inadequate note-taking skills. The auditory learner may find tape recording of lectures particularly helpful.

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* This carbon paper can be ordered from The Bookstore, Rochester Institute of Technology, 1 Lomb Memorial Drive, Rochester, NY 14623, 716-475-2504.

** Available from Putnam Publishing Group, Dept. LSM, 200 Madison Avenue, New York, NY 10016, (800) 847-5515.

Word Processing

For a student having difficulty writing legibly, allow the use of a word processor for written assignments. The typewriter is another means of motivation and practice when students are answering questions or learning definitions and terms.

Organizational Notebook

Many students, especially learning disabled students, frequently have difficulty with tasks involving organization of time and materials. Success for these students may be facilitated by teaching such skills as notebook organization. Both the teacher and student could then have a system to assure that such activities as homework assignments have been copied accurately and returned at the proper time.

The materials required for notebook organization are as follows:

1. One three-ring binder to hold all the other materials.
2. One paper calendar—attach the current month on the inside cover of the binder for "assignment due" dates.
3. One plastic pouch for pencils, erasers, pens, cards (word bank vocabulary), etc.
4. Two pencils or pens, one portfolio (folder with pockets) per class to hold assignments, study guides, etc.
5. One spiral notebook (or loose-leaf paper) per class.
6. One copy of the SQ3R study technique (see Section 4, "Survival Skills") taped to the inside back cover of binder.

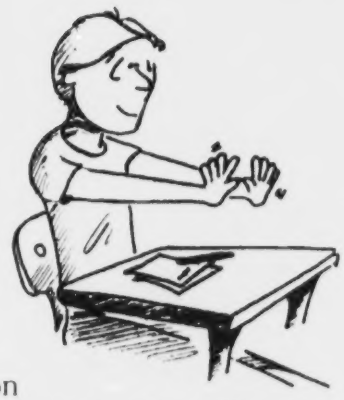
The organizational notebook minimizes the problem of students who are afflicted with a bad case of "Disorganizational Syndrome." Almost everything the student needs, with the exception of textbooks, is contained in one package.

The organizational notebook has proven effective for both elementary and secondary students. A homework assignment sheet is maintained in each folder for each class. Points may be awarded at first to reinforce usage and to encourage bringing the notebook to class. For example, bringing the notebook every day could be worth six points on a six-weeks exam.

Mathematics

The special student may understand the concept behind a particular arithmetic problem but may be unable to arrive at the answer because of an inability to remember basic math facts. The following compensatory techniques are ways of helping the students compute math facts. Many students will eventually memorize math facts as they work with these "helping tools."

Finger Multiplication

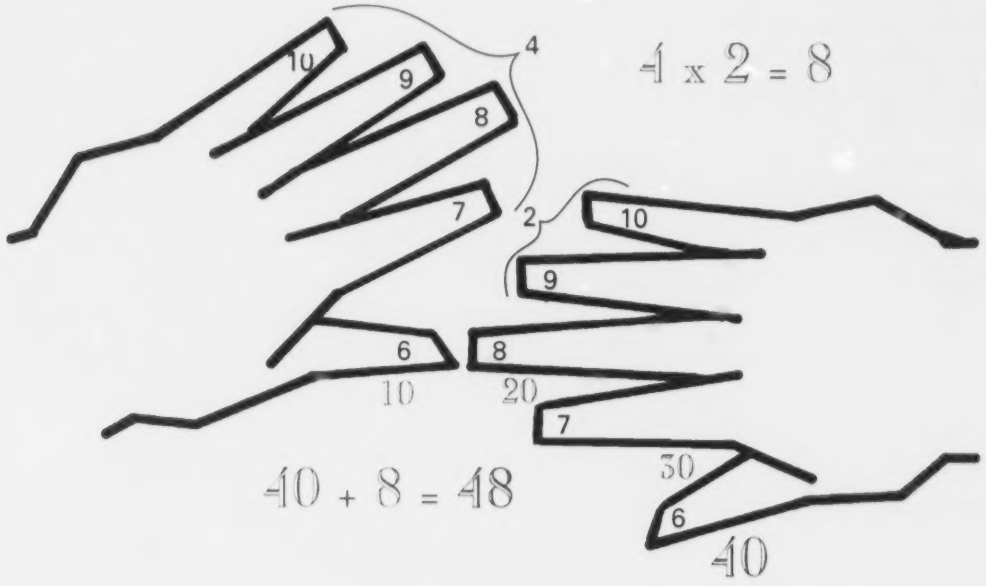


Finger multiplication is a technique for use by a student who knows the ones through fives in multiplication but has problems with the sixes through the nines. It is a compensatory technique—one used to bypass a problem area.

This technique is very concrete. Have the student hold his/her hands up with palms out. The student then numbers his/her fingers starting with the thumb as six, index finger as seven, and so on to ten, on both hands. Each finger now has an assigned number (see Figure 17).

To multiply six times eight, for example, the student places the appropriate finger of one hand to the appropriate finger of the other hand forming a "bridge" (e.g., the thumb [six] of one hand to the middle finger [eight] of the other hand). The fingers below the bridge and including the fingers forming the bridge are counted as tens. The fingers above the bridge are counted as ones.

FIGURE 17



Now the student counts all the fingers below the bridge and the two forming the bridge as tens (e.g., 10, 20, 30, 40), then multiplies the number of fingers on one hand above the bridge times the number of fingers on the other hand above the bridge (e.g., 4 x 2 = 8). Now the student simply adds the two together to get the answer (40 + 8 = **48**, so **6 x 8 = 48**).

In actual practice, the student would keep his/her hands on his/her desk or in his/her lap with thumbs pointing down.

Note: Finger multiplication is **not** recommended for elementary-age students.

Pringles™ Can Multiplication

Pringles can multiplication is a technique that can be both compensatory and remedial, depending upon its use.

Pringles Can Multiplication Table—Assembly Instructions

1. Mimeograph or photocopy the "Pringles Can Multiplication Cutout" and "Pringles Can Multiplication Table" sheets (both provided in the Appendix) onto construction paper. (Cut out the squares on the "cutout" sheet as indicated.)
2. Laminate the two construction paper sheets.
3. Attach the "multiplication table" sheet to the Pringles (or similar) can, so that it is stationary.
4. Attach the "cutout" sheet (with missing squares) over the "multiplication table" sheet so that the vertical row of numbers on both sheets are visible.
5. Be sure the top sheet will roll easily.

Using the Pringles can as a compensatory tool, a student who doesn't remember what seven times nine is would simply turn the sleeve to match up seven and nine. The answer will show up in the slot provided.

As a remedial tool, the student may need to work on his/her sevens, for example. So he/she would start with seven times one, look at the answer, then proceed to seven times two, and so on. Eventually, the student can be weaned away from this technique as the constant reinforcement of seeing the correct responses will probably help him/her remember them.

This technique is especially recommended for high elementary and junior high/middle school level students.

Pringles™ Can Addition

Pringles can addition is used in the same way as Pringles can multiplication, and is assembled in exactly the same manner. Patterns for both the "Pringles Can Addition Cutout" and "Pringles Can Addition Table" sheets are provided in the Appendix as well.

Multiplication Table

As a compensatory aid, a student may be allowed to carry a copy of the multiplication table (shown in Figure 18) in his/her notebook to refer to when unsure of an answer. Smaller copies may be carried in wallets and purses.

FIGURE 18

Multiplication Table										
X	0	1	2	3	4	5	6	7	8	9
0	0	0	0	0	0	0	0	0	0	0
1	0	1	2	3	4	5	6	7	8	9
2	0	2	4	6	8	10	12	14	16	18
3	0	3	6	9	12	15	18	21	24	27
4	0	4	8	12	16	20	24	28	32	36
5	0	5	10	15	20	25	30	35	40	45
6	0	6	12	18	24	30	36	42	48	54
7	0	7	14	21	28	35	42	49	56	63
8	0	8	16	24	32	40	48	56	64	72
9	0	9	18	27	36	45	54	63	72	81

Use of Calculators

The question is not **whether** you should use a calculator in your classroom, but **how** you should use it. A calculator can help you do a better job of teaching basic mathematics. Calculators can also be valuable for students as a compensatory tool. Figure 19 illustrates some possible uses for calculators as a compensatory tool within the classroom.

FIGURE 19

General

- Student uses to check own answers
- Let a team of students with one calculator check papers
- As a motivator, if students do five problems on their own, they can then do five problems with a calculator

Counting and Numeration Skills

- The nature of the counting process is made obvious by the machine (1 can be added to each number)
- A calculator makes it possible to start counting at any number (by twos, threes, tens, etc.)
- Oral practice in naming numerals and number words

Computation Skills

- Many calculator games can be designed to help students remember basic computation facts
- Give problems with real applications, and allow students to develop their own methods of solution (the objective is the development of the method, not the method itself)
- Have students work problems, check their answers with calculators, and find the errors in their own work

Measurement and Geometry

- Calculators can make measurement experiences more real as students compute perimeters, areas, and volumes
- In geometry, the calculator is an excellent device for helping the student try different methods for discovering a pattern and then extending that pattern

Problem Solving

- Use to discover and expand science and social studies facts, such as dates, population figures, and other statistics
- The calculator makes it possible for students to work with both extremely large and small numbers and with data that would be very difficult for them with paper and pencil

Alignment Suggestions

If a student is able to compute math problems, but the final answer is incorrect, the student may have difficulty keeping columns straight. The following are suggestions in helping correct this problem:

- Have the student turn the notebook paper sideways, or
- Have the student use ½" square graph paper.

If the student has difficulty spacing letters correctly, these same procedures may be useful.

Vocabulary

Following is a detailed description of a technique helpful with vocabulary.

***K**eyword Mnemonic Method*

The keyword mnemonic method has proven to be an excellent tool for students who have difficulty learning new vocabulary words. It is based on the principle of replacing a difficult association (i.e., between a new vocabulary word and its definition) with two easier associations. This is made possible by the use of a "keyword," a common word that sounds like part or all of the vocabulary word.

For example:

Vocabulary Word	Keyword	Definition
Barrister	**Bear**	**Lawyer**
acoustic link (sound-alike)	imagery link (picture)	

The first association is a sound-alike, acoustic link between the vocabulary word and the keyword. The link is based on the sound the words have in common. The second link is an imagery link. The student makes a mental picture with the keyword and the definition interacting.

In this example, the student might picture a bear in a suit acting like a lawyer. Later, when the student hears or sees the vocabulary word, he/she will remember the keyword that sounds like the vocabulary word (Barrister-Bear). When the student remembers the picture with the keyword (Bear-Lawyer), he/she will then link together the word pairs and recall the definition of the vocabulary word (Barrister-Lawyer).

Bearister

Utilizing the Keyword Method

1. Select a list of vocabulary words and their definitions (preferably synonyms). Words with concrete, visualizable meaning work best. A good list length is 15 words.
2. Choose a keyword for each vocabulary word. A keyword should sound as much like the vocabulary word as possible. Ideally it will sound like the first syllable. It should be easy to form a memorable image connecting the keyword and the definition. Concrete words that can be pictured work best.
3. Teach your students the keyword method. You might call the keyword a "linking word" (like a link in a chain). Use several examples. Tell them the keywords to use and the images to see.
4. Have your students use the keyword method to study the vocabulary list. Tell and show them a vocabulary word, its keyword, and the definition. Be sure they clearly see a mental picture before you move on to the next word.
5. When testing the list, present each vocabulary word and ask the students to recall both the keyword and the definition.

Section 3

Remedial Instruction

Remedial Instruction

All classroom teachers have been involved to some degree in remedial teaching, although this form of instruction is generally regarded as being the domain of the special education teacher. This concept is slowly changing. Regular classroom teachers are finding that remedial instruction is necessary and possible in classes where students learn on different levels and with varying styles.

Remedial instruction is the re-teaching of concepts or skills using a different type of approach, material, or procedure. The standard curriculum for a particular student may have to be modified. Supplementary materials with low readability levels may be used in content areas to cover basic subject matter, or specialized commercial materials may be required to drill the student in specific skills. In addition to commercial materials, remedial instruction often utilizes teacher made activities and learning materials, as well as newspapers, magazines, menus, checkbooks, application forms, itemized receipts, etc.

Successful remedial teaching requires the teacher to recognize that all students in a class are not working at the same level and that differential teaching will be necessary to ensure that significant learning is taking place. This is of significance since mildly disabled learners should be included in most regular content areas.

All this clearly implies that the regular classroom teacher must be prepared to reach a variety of ability levels, achievement levels, areas of interest, and learning styles (e.g., those of auditory learners, visual learners, etc.). The teacher must have a working knowledge of available materials, including the readability levels and the preferred method of conveying skills or content.

Remedial instruction relies upon individualized teaching, which in turn relies upon the students' strengths and weaknesses as a basis for instruction. Emphasis is not placed on doing the same thing in the same way as everybody else. Rather, the teacher uses all sources of information to find out: (1) what the students need to learn, and (2) how to teach it.

If, as a classroom teacher reading this, you are feeling somewhat overwhelmed, you should not assume that the regular classroom teacher must shoulder all these responsibilities alone. Planning a program for the special student is a cooperative effort which

begins at the placement team meeting when the IEP (Individual Education Plan) is drafted. The IEP is a total program document, and should include all objectives and approaches to be used in educating the student with special needs. Close communication between the special teacher and the regular teacher should take place during the placement meeting as well as throughout the year. The special teacher should be available to assist the regular teacher in selecting and using alternative materials and in helping to determine if the objectives set for the student are realistic and are being met. The school psychologist or psychometrist should be in attendance at the placement meeting to explain the test results and their implications for instruction. Personnel from the state special education agencies may be available to offer prescriptive assistance. Remedial reading and math teachers may also be consulted for assistance. Now that the "least restrictive environment" is a reality in the public schools, coordination between all schools in a district and school support personnel is essential.

The following tips for content area teachers to use with remedial students are a logical extension of the preceding discussion:

- Know the reading ability and level of your students.
- Determine the readability levels of all printed materials that you use with your students.
- Provide a purpose and direction for each reading assignment.
- Provide structure, such as outlines, motivating questions, etc., for written assignments.
- Reinforce essential and/or technical vocabulary by repetition. Remember that vocabulary is best learned by concrete illustrations and actual experience.
- Provide alternative assignments that do not require the use of a textbook.
- Make use of audiovisual aids, filmstrips, records, and supplemental materials as alternatives to the standard textbook.
- Utilize informal or criterion-based tests to assess students' strengths and weaknesses.
- Teach the **concepts** behind math operations. Remedial teaching in math should involve the what, how, and why behind the numerical operations.
- Provide concrete experiences using physical objects, and **then** relate them to math operations.
- Teach the English language equivalents of mathematical symbols (i.e., word/symbol association).
- Because most secondary textbooks' content and format tend to encourage rote memorization and repetition of facts, provide for structured discussion after all reading assignments (as higher levels of comprehension cannot be expressed in writing if they are not perceived from the source).

Using Modularized Instruction for Remediation

Many of the techniques, materials, and strategies described is this section are often used in modularized instruction. Commercial materials may also be used. This type of instruction works well in both resource rooms and regular classrooms.

In modularized instruction, teachers prepare instructional modules (units or centers) that guide students in the attainment of objectives for a given topic. Some classrooms depend totally on modular instruction, while others incorporate modules for special topics, remedial instruction, extra credit, etc. A module usually consists of the following components:

1. Provide **directions** for using the module (keep the readability as low as possible).
2. **Pretest.** If a student passes, he/she receives credit for the module.
3. Provide an **introduction** to the module.
4. Provide the **goals** of the module.
5. Provide specific **behavioral objectives**.
6. Provide the students **two or three activities for each objective**. Each student should choose the activity he/she prefers.
7. **Posttest.**
8. Provide **remedial work** for students who do not perform well on the posttest. An alternate form of the posttest may be included.

Modular instruction teaches independence and self-reliance as well as the content area material. The focus is on mastery, learning, and diversity. It is one type of modification that is beneficial to the entire class while providing adaptations for highly challenged students.

Questions to Ask About Reading

The types of questions that are asked about reading can aid the reader's understanding of the selection while strengthening his/her comprehension skills. Include at least one question for each type of comprehension: literal, reorganization, inferential, evaluation, and appreciation. *Barrett's Taxonomy of Reading Comprehension* illustrates each of these five areas of comprehension, as described following.

Barrett's Taxonomy of Reading Comprehension

1.0 **Literal Comprehension** focuses on ideas and information which are explicitly stated in the reading selection.

1.1 **Recognition** requires the student to locate or identify ideas or information explicitly stated in the reading selection:

- Recognition of Details
- Recognition of Main Ideas
- Recognition of Sequence
- Recognition of Comparison
- Recognition of Cause and Effect Relationships
- Recognition of Character Traits

1.2 **Recall** requires the student to produce from memory ideas and information explicitly stated in the reading selection:

- Recall of Details
- Recall of Main Ideas
- Recall of Sequence
- Recall of Comparison
- Recall of Cause and Effect Relationships
- Recall of Character Traits

2.0 **Reorganization** requires the student to analyze, synthesize, and/or organize ideas or information explicitly stated in the reading selection. The student may utilize the statements of the author verbatim, or he/she may paraphrase or translate the author's statements:

- Classifying
- Outlining
- Summarizing
- Synthesizing

3.0 **Inferential Comprehension** is demonstrated by the student when he/she uses the ideas and information explicitly stated in the reading selection, his/her intuition, and his/her personal experiences as a basis for conjectures and hypotheses. The student may infer:

- Supporting Details
- Main Ideas

- Sequence
- Comparisons
- Cause and Effect Relationships
- Character Traits
- Predicted Outcomes
- Figurative Language (Meaning Inferred)

4.0 **Evaluation** requires responses by the student which indicate that an evaluative judgment has been made. The student may compare ideas presented in the reading selection with external criteria provided by the teacher, other authorities, or written sources with internal criteria provided by the student's experiences, knowledge, or values. Evaluative thinking may be demonstrated by asking the student to make the following judgments:

- Reality or Fantasy
- Fact or Opinion
- Adequacy or Validity
- Appropriateness
- Worth, Desirability, and Acceptability

5.0 **Appreciation (Affective Domain)** involves all the previously cited cognitive dimensions of reading, for it deals with the psychological and aesthetic impact of the selection on the reader. Appreciation calls for the student to be emotionally and aesthetically sensitive to the work and to have a reaction to the worth of its psychological and artistic elements. Appreciation includes both knowledge of and an emotional response to literary techniques, forms, styles, and structures:

- Emotional Response to the Content
- Identification With the Characters or Incidents
- Reaction to the Author's Use of Language
- Imagery

Sample Questions for Barrett's Taxonomy

Following are examples of questions relating to the five comprehensions detailed in ***Barrett's Taxonomy of Reading Comprehension***:

1.0 **Literal Comprehension**

1.1 **Recognition**

- Locate and identify the factors that caused the main character to _____.
- Locate and identify the individuals who caused the disturbance.
- Show me the index (table of contents, chapter headings, etc.).
- Find the page where _____ is described.
- Show me a word which you didn't know. How did you figure it out?

1.2 **Recall**

- Who is the author?
- What do you know about the author's background (home, family, etc.)?
- Who is the central character?
- After _____(an incident), what happened next?
- Tell me what happened first; then _____?

2.0 Reorganization

- Will you summarize for me the main ideas?
- What do you feel the author is trying to tell people?
- Will you describe for me, in your own words, the sequence of events which led to the central problem?
- What ideas are you sure about when you read what the author has written?
- Will you tell me the story?

3.0 Inferential Comprehension

- What is this story mainly about?
- Does this book remind you of any other book?
- Could you describe this book in a couple of words?
- Is there something in this book that isn't actually said?
- Was there anything in this book that was not the same as you've heard before?
- What is the problem of _____ (a character) in this story?
- If _____ (an incident) happened before _____ (another incident), would it make any difference in the story?
- Did you ever have an experience like this?

- Can you find the general topic of this story in another book? in any reference books? texts in other subjects?

4.0 Evaluation

- What kind of book is this?
- Does its setting make a difference?
- Does its time (of year, in history) affect the story?
- Do you think the story is really about _____?
- Is there a lesson to be learned in this story? If so, what?
- Do you think you can believe what it says? Why or why not?
- Do you agree or disagree with this book?
- What is your own opinion about _____ in this book?
- Is this something everyone should read? Why or why not?
- If only a few people should read it, who would you choose?
- Is it right for someone (a writer, the publisher, an organization, etc.) to print only a part of a whole story?
- Can you trust what this author (publisher, newspaper, magazine, etc.) says? Why or why not?
- If you do not know whether this book is true, what could you do to find out more about it?
- Was this a good story?
- If you could talk to the author, what would you tell him/her?
- Do you know anyone like _____ (a character)?
- Who do you know who likes this type of book?

5.0 Appreciation (Affective Domain)

- Do you think it is a happy (sad, frightening) story?
- Do you trust what you read?
- Do you believe everything you read? Why or why not?
- Do you think all of your classmates believe what they read?
- What was the best part of the story to you? Was this part in the beginning, middle, or end of the story? Do you have any idea why that part was where it was?
- What about this story made you happy (sad, scared)?

- If you could become one of the characters in this story, which one would you be?
- What character are you sure you would **not** want to be?
- If you could, would you change the story around?
- If you would change anything about this story, what exactly would you change?
- Do you have a problem like the person in this story?
- Could you get some help with your problem from reading this story?
- Did you see anything in this story about yourself which you did not know before? Will you tell me about it?

Remedial Spelling Suggestions

Following are two specific remedial techniques helpful in spelling.

Spelling Lists

Many students have difficulty with spelling. English spelling is irregular, and many words are exceptions to established spelling rules. In teaching spelling, a couple of general guidelines should be followed. The first guideline is to disregard the spelling book and emphasize everyday words that students use most often in their writing. The second guideline is to test spelling words in a manner which facilitates mastery of the words by students.

To do so, choose ten content-related words. Pretest the student on these ten words. The student should correct his/her errors, since the most effective way of learning to spell is to correct one's own errors. The student should then study only the words missed. Test again using all ten words on the next school day. Continue this process, testing each day until the student has reached 100% accuracy. Proceed to the next list of ten words and pretest. A cumulative test may be given after each group of **50** words are mastered. Words that are missed on the cumulative test can be added back into the list of words to be learned.

Cover and Write Study Technique

Students may find the cover and write study technique helpful when studying spelling or any other rote material. The steps for the students to study with this technique are as follows:

1. Look at the word.

2. Cover it up.
3. See if you can write the word without looking.
4. Look at the word.
5. Check to see if you got the word right.
6. If you did, go on to the next word.
7. If you didn't, look at the word again and either sound it out by syllables or visualize it.
8. Then cover the word again.
9. See if you can write the word without looking now.
10. Look at the word to check if you got the word right.
11. If you still got it wrong, circle or check the word and go on to the next word or task.
12. When you are finished with the list, go back and practice writing the word(s) you missed.

Remedial Written Expression Suggestions

Communication of a thought or idea is the purpose of all written material. Is this a difficult task? Researchers suggest this may be the **highest level of communication** and, for many, the **most difficult** form of communication. You should bear this in mind when working with students with learning disabilities. Following are some specific remedial techniques helpful with written expression.

Four Areas to Consider in Written Expression

I. Handwriting

A. Problems With:

1. Speed
2. Letter Formation
3. Erasures
4. Mixture of Print and Cursive

B. Techniques and Materials:

1. Use content areas for students to practice writing.
2. Allow word processing for those with illegible handwriting.

3. Use music to relax students (i.e., have students write while listening to music).
4. Use job applications to stress to students the need for legible writing.

II. Idea Formulation

A. Problems With:

1. Organization
2. Structure of Topic
3. Sequence of Sentences
4. Incomplete Sentences
5. Unrelated Sentence in Story

B. Techniques and Materials:

1. Have students write the steps used in:
   a. Building a ten-speed bicycle;
   b. Baking a cake; or
   c. Fixing a flat tire.
2. Write (or have students write) the sequence of tasks on index cards, scramble the cards, and have students sort the cards.
3. Use cartoon strips as stimuli for students to write sequenced captions.
4. Limit the topic choices given to students.
5. Give specific suggestions about which students should write.
6. Provide students a paragraph study sheet (discussed late in this section).

III. Vocabulary and Spelling

A. Problems With:

1. Word Misuse or Overuse
2. Syllable Omission
3. Phonetic/Nonphonetic Spelling
4. Letter Order

B. Techniques and Materials:

1. Compile vocabulary word bank file cards for definitions that students can consult.
2. Teach syllabication in reading.

3. Develop synonyms with students.
4. Use the keyword mnemonic method (see Section 2, "Compensatory Techniques") for teaching vocabulary.

IV. Grammar

A. Problems With:

1. Capitalization
2. Punctuation
3. Syntax
4. Verb Tense
5. Subject-Verb Agreement
6. Word Omission

B. Techniques and Materials:

1. Use practical (concrete) cues with students to develop punctuation.
2. Use the cloze procedure (see Section 1, "Adaptive Techniques") in study guides to point out word omission.
3. Review the rules of capitalization with students.

Stimulating Written Expression

1. Let your students know that they will receive graded papers with positive comments (e.g., "This is a long story," or "You really used your imagination.").
2. Use some of the commercial materials available with your students:
   - *The Writing Center*—Publisher: Winston Press, 25 Groveland Terrace, Minneapolis, MN 55403.
   - *Informal Writing Inventory*—Publisher: Scholastic Testing Service, 480 Meyer Road, Bensenville, IL 60106.
   - *Story Starters*—Publisher: Holt, Rinehart & Winston, 383 Madison Avenue, New York, NY 10017.
   - *Re-Tell Readers*—Publisher: Wieser Educational, P.O. Box 549, El Toro, CA 92630.
3. Cut out newspaper or magazine pictures to serve as stimuli for writing assignment topics.
4. Have students illustrate their stories.

Writing Frames

Filling in writing frames provides students with structure for written assignments, which is particularly important for remedial students. Figure 20 illustrates three samples of writing frames. The first emphasizes the analysis of the main character and his/her conflict within the story; the second sample emphasizes the sequence of events in the story; and the third sample facilitates the comparison and contrast of either two reading passages, or two characters/incidents within the story.

FIGURE 20

1. Character Analysis

In the story _____ by _____, the major character is _____ who is _____. _____, who _____, is also important in the story. The problem which the major character faces is that _____ _____. The problem is finally solved when_____. The lesson I learned from reading this story was that_____ _____.

2. Time Order

At the end of_____ what happened was that_____.
Previous to this_____.
Before that_____.
The entire chain of events began for a number of reasons, including_____ _____.
Some major incidents which helped to trigger the conflict were_____ _____.

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3. Comparison/Contrast

_____ is different
from _____ in several ways.
First of all _____,
while _____.
Secondly, _____
while _____.
In addition, _____
while _____.
Finally, _____
while _____.
So it should be evident that _____
_____.

Figure 21 illustrates a writing frame page which you could provide your students for use when taking notes from their textbooks.

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FIGURE 21

Notes From:	Date:
Step 1:	Topic (from the Introduction)
Step 2:	Main Idea (the first subtitle)
Step 3:	Details (from the first section)
Step 4:	Main Idea (the second subtitle)
Step 5:	Details (from the second section)
Step 6:	Main Idea (the third subtitle)
Step 7:	Details (from the third section)

Remedial Instruction and Materials

Following are some specific remedial instruction techniques and materials proven helpful to teachers in re-teaching concepts or skills to students at a variety of ability levels.

See-Thru Study Sheets

See-thru study sheets may be used to re-teach concepts that the students have been exposed to previously. This technique provides immediate feedback, takes a minimum of time to implement, and can easily be done by students. It is also extremely inexpensive.

The technique is based upon the fact that red college theme binders (acetate type) effectively screen out pink and yellow water-based highlighter pens. Thus see-thru study sheets are extremely effective for review or re-teaching of content area material and make excellent student study guides. Students can easily use see-thru study sheets to quiz themselves on any type of information, providing immediate feedback.

To make see-thru study sheets, write problems or questions on either standard size paper or on index cards using a dark magic marker. Write the answers with either pink or yellow water-based marker. When the study sheet paper or cards are under the plastic theme cover, only the problems or questions are visible. The answers appear when the paper or cards are pulled out from under the theme cover.

Paragraph Study Sheets

The paragraph study sheet is an excellent way to check for comprehension in reading and, like writing frames, provides the remedial student with structure in written assignments. Reading for main ideas is one of the most important skills students must master, and if a student can relate the essential details listed on the paragraph study sheet (see Figure 22), it shows that the student is comprehending the material (at least at the literal level). The paragraph study sheet can be used as a self-administered, quick check device to ensure that a reading passage has been understood by the student.

The paragraph study sheet also provides a framework from which to construct a written assignment, and can be used for creative writing assignments. Many students have difficulty thinking of their own ideas, and the thought of an unstructured writing assignment might send some of them into a near panic. To alleviate this problem, you could provide a number of index cards for each detail. The students could then put together the main ideas for story paragraphs by putting together the statements from the index cards.

FIGURE 22
Paragraph Study Sheet

Topic Sentence:

_____

_____

Details

Who?

_____

_____

What?

_____

_____

Where?

_____

_____

When?

_____

_____

Why?

_____

_____

How?

_____

_____

Other?

_____

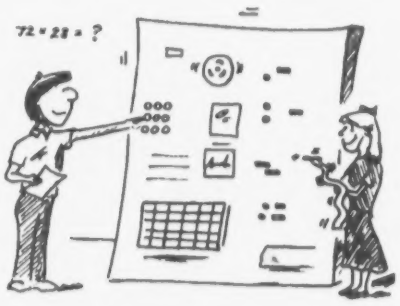
_____

In addition to the see-thru and paragraph study sheets, the following activities and ideas may also be useful in helping to remediate students with learning disabilities.

Color Computer

The Color Computer comes in a kit* which contains a color coded answer key card and prepunched (four different hole patterns with 42 programming possibilities) question cards. The instructional benefit of this kit is that it provides immediate feedback for students. It is easily programmed for math drills, vocabulary drills, science terms, all types of multiple-choice items, review for a state driver's license test, or any other content area review.

The directions for assembly and the procedure for use of the Color Computer are as follows:



Directions

1. Position and paste down the answer key card on a large piece of cardboard or a file folder.
2. Choose any question card and place it on top of the answer key card to determine the programming colors. (A color from the answer key card will show through each hole.)
3. Select a magic marker of any color that appears through a hole on the question card.
4. Write a content question/drill item on the question card, and write the correct answer beside the hole showing the color chosen.
5. Beside the other holes, place alternative, incorrect answers.
6. The question cards may be programmed on both sides.

Procedure

1. A student selects and reads one programmed question card at a time.
2. He/she indicates his/her choice of answer by pointing to the hole on the card, verbalizing his/her choice, or by recording the answer on a piece of paper.
3. If an incorrect answer was chosen, the correction may be made by the student either mentally or in writing.

* The *Color Computer Kit*, with directions for programming, may be ordered from I.E.S.S., Inc., Box 432, 1365 South Park Drive, Kernersville, NC 27284.

Beat the Clock

The Beat the Clock technique may be used for review of multiplication and for parts of speech. The directions for construction and the procedure for each use are as follows:

***M**ultiplication*

1. In a file folder, mark off a grid with 40 spaces (eight across, five down).
2. In the first column, print the letters C-L-O-C-K.
3. Write numbers in the grid as shown in Figure 23.

FIGURE 23

C	2	3	4	5	6	7	8
L	9	10	12	14	15	16	18
O	20	21	24	25	27	28	40
C	32	35	36	40	42	45	48
K	49	54	56	63	64	72	81

4. You will need 177 small-size (2" x 3") task cards. Write the following numbers on the task cards:

1 on 16 cards	4 on 20 cards	7 on 22 cards
2 on 20 cards	5 on 20 cards	8 on 20 cards
3 on 20 cards	6 on 16 cards	9 on 18 cards

5. Write the letters C-L-O-C-K on five of the cards (one letter per card).
6. Have the student playing Beat the Clock shuffle **all** the cards together, and use beans or paper clips as markers.
7. Have the student draw two cards. The student would then multiply the numbers on the cards and cover the answer on its corresponding grid square with a marker.

The object is to get all the number squares on the grid covered before all of the letters are covered.

***P**arts of Speech*

1. In a file folder, mark off the grid with 40 spaces (eight across, five down).
2. In the first column, print the letters C-L-O-C-K.

3. Write the following parts of speech in the remaining grid squares, in random order:
   - Noun
   - Verb
   - Adjective
   - Adverb
   - Preposition
4. You will need 85 small-size (2" x 3") task cards. Write 16 words of each selected part of speech (i.e., nouns, verbs, adjectives, adverbs, and prepositions) on the task cards.
5. Write the letters C-L-O-C-K on five of the cards (one letter per card).
6. Have the student playing Beat the Clock shuffle **all** the cards together, and use beans or paper clips as markers.
7. Have the student draw a card and decide whether the word on the card is a noun, verb, adjective, adverb, or preposition. The student would then cover the correct part of speech on its corresponding grid square with a marker.

The object is to get all the parts of speech squares on the grid covered before any of the letters are covered.

Sight Word Football

On a piece of posterboard, draw a football field with lines representing ten yards. Then make a sight word list from history, science, poetry, or any other appropriate content unit. Also make a cardboard football, and place it on the ten yardline.

Sight Word Football is designed to be played by two students (or two teams of students). The first player reads the first sight word on the list. If he/she pronounces it correctly, he/she advances the football ten yards toward the opponent's goal. If he/she cannot pronounce the word, he/she moves the football back ten yards toward his/her own goal.

A player crossing his/her opponent's goal line is awarded six points. If the player reads the next word correctly, an extra point is also added. The first player to reach a predetermined score (or the player with the highest score at the end of a predetermined time limit) is the winner.

Using Money

This Using Money activity is highly recommended for intermediate and secondary students, and any student who has difficulty making change. This teacher directed activity can be conducted with an individual student or with a group of students. Each student participating will need a copy (or a similar reproduction) per round of play of the chart shown in Figure 24:

FIGURE 24

$1.00	50¢	25¢	10¢	5¢	1¢

The Using Money activity procedures are as follows:

1. Tell the students an amount of money under $1.00. (You will probably want to start with small amounts of money and gradually increase to amounts up to $5.00, adjusting the dollar and cents headings of the chart accordingly.)
2. The students place coins or markers (such as small candies) on their chart to illustrate the amount specified. They should have more of each denomination than they need.
3. In order to keep their coins or markers, the students must indicate the exact amount in the **least number of coins possible**. If not, you take the coins or markers (e.g., if the amount is 33¢ and a student uses three dimes and three pennies, you get the markers since 33¢ should be changed to one quarter + one nickel + three pennies).
4. The first amount specified is changed **above** the line on the chart. Now, give a second amount and have the students follow the same procedure, only this time their coins or markers should be placed **below** the line on the chart.

   For example:

	$1.00	50¢	25¢	10¢	5¢	1¢
33¢			★		★	★★★
48¢			★	★★		★★★

5. Each student now has two groups of coins or markers, one above the line and one group below. To complete the round of play, the students should simply put their coins or markers together and change denominations when they have too

many (e.g., for the six pennies, they would take off five pennies and put down one nickel, etc.).

For example (33¢ + 48¢ = 81¢):

	$1.00	50¢	25¢	10¢	5¢	1¢
81¢		★	★		★	★

Crossword Math

Have teams of two or three students who have difficulty with particular math skills or concepts make simple cross-math puzzles in the area where remedial help is needed. The teams can then exchange their puzzles and learn from each other.

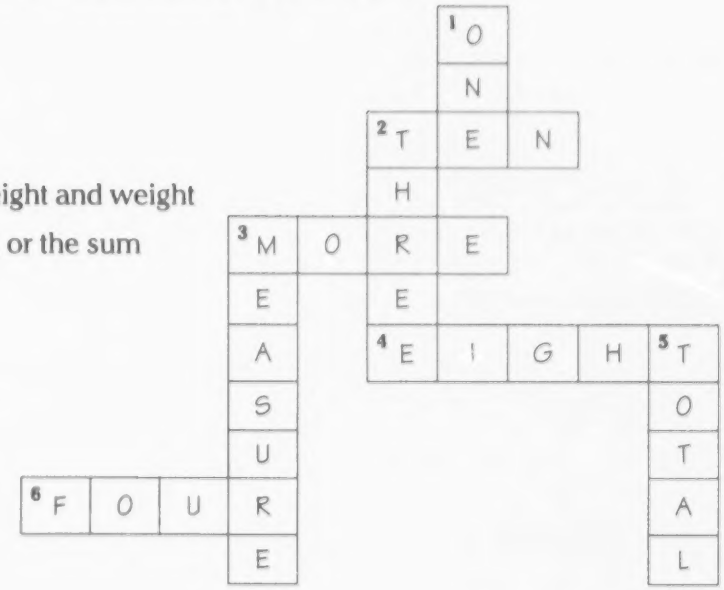
Here is an example of a simple cross-math puzzle on numbers:

Down

1. 1
2. Trio
3. To find your own height and weight
5. Numbers added up, or the sum

Across

2. Fingers
3. Opposite of less
4. Rhymes with **ate**
6. Quartet



Hold Your Place

When students learn the concept that numbers are place holders, they will more easily understand the reading and use of these place holders. To facilitate students' practice with place holders, reproduce the chart shown in Figure 25 on the chalkboard or on student skill sheets and allow each student to place various numbers on the chart. Markers could also be placed by students in appropriate spaces on their charts to demonstrate values.

FIGURE 25

	Millions
	Hundred Thousands
	Ten Thousands
	Thousands
	Hundreds
	Tens
	Ones
	Decimal Point
	Tenths
	Hundredths
	Thousandths
	Ten Thousandths

Symbols

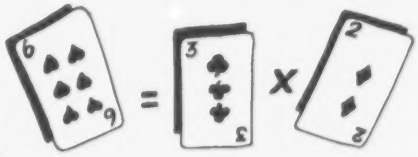
Construct and place on the chalkboard ledge any or all of a set of cards containing the following symbols: "+," " — ," " X," " ÷," "=," "( )," ">," and "< ." Call upon students to do one of the following:

- Choose a card and give the name of the symbol and its meaning; or
- Choose a card and give the name of the symbol and use it in an example.

Alternately, have the students play a game with two teams in which a member of Team A explains the use of a symbol and a member of Team B finds that symbol, and vice versa. Play would continue until each student had had the opportunity to find a symbol; the use of team points could be included if desired.

What a Deal

Use a deck of playing cards, with the face cards removed, to teach students various arithmetic skills. The game can also be used to provide remediation in multiplication, division, and subtraction.



Using a deck of cards per pair of students, have the students play five games of addition (with one student doing the adding, the other checking). The student doing the addition turns over the top two cards and adds their numbers together. The other student checks the addition, then draws two cards of his/her own. Play continues in this format through the deck.

What's Cooking

Have the students collect menus (with prior permission from the restaurant owner/manager) from restaurants they visit in their community. When a variety of menus have been collected, prepare "Dining Out Cards" that include a variety of situations for the students to solve using the menus. Here are two examples:

- You and two of your friends want to go shopping and eat out rather than returning home. Each of you has $2.05 for meal expenses. Assuming that all of the restaurants are near enough to your shopping area, select one that would best serve your needs. What would be your meal? What is the total cost (don't forget tax)? How much do you have left?
- You want to take your father/mother to the movies and dinner for his/her birthday. You have saved $10.75. The movie costs $2.00 for each ticket. From the menus available, select a dinner that you can afford.

Big, Bigger, Biggest

Have the students make up and exchange problems such as the following examples:

Which Is More? Circle the correct answer.

3 quarts or 7 pints	20 days or 3 weeks
2 feet or 25 inches	20 minutes or 995 seconds

The "Mean" Game

Since temperature, rainfall, snowfall, etc., are often reported in terms of the mean (for the month, the year, or the area), it is important for students to have some understanding of the meaning of this term. The mean of a series of numbers is the "average" of those numbers, and is computed by adding all of the numbers and dividing by the numbers used.

Visually demonstrate the concept of mean to the students using the following device. From a roll of "tear off" tickets, present the students with strips containing 15, 13, 12, 8, and 7 tickets. Work with the students in removing some tickets from the strips containing 15, 13, and 12 and attaching them to the strips containing 8 and 7 tickets so that five equivalent strips of 11 tickets each are formed. Thus, the mean, or average, is 11. Now illustrate this procedure on the chalkboard: add 15, 13, 12, 8, and 7, and then divide the sum by the number of numbers (i.e., $55 \div 5 = 11$). Again, 11 is the mean or average. Have the students compute additional means on paper as well as with calculators.

Tape Worm

Have the students collect cash register receipt tapes from their families' purchases at the supermarket and other stores. Place all of these in a box. For addition with decimals practice, have each student select a certain number of tapes and add the cost of the items (mentally or with a calculator) to verify the totals on the tapes.

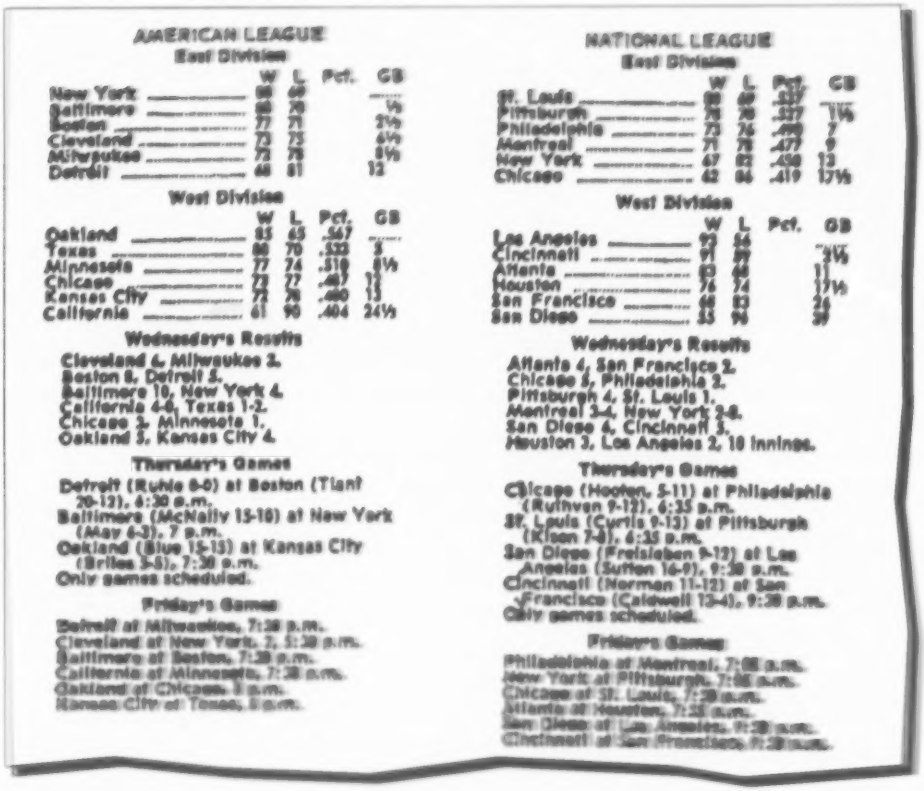
Subtraction with decimals problems can be designed from the tapes by writing the amount of money the purchaser may have given the clerk on the tapes, and having the students calculate the amount of money refunded to the purchaser. For example:

> **The cost for a list of items on one tape totaled $42.58. On the bottom of the tape is written the amount of money given to the clerk; in this case, two $20.00 bills and one $5.00 bill. In this example, the clerk returns to the purchaser $2.52.**

Baseball Math

Give each student (or groups of students) a copy of the baseball standings from your local paper. Figure 26 illustrates the kind of information students will need for math computations like those following.

FIGURE 26



AMERICAN LEAGUE

East Division

	W	L	Pct.	GB
New York	80	69		
Baltimore	80	70		½
Boston	77	71		2½
Cleveland	73	73		6½
Milwaukee	72	75		8½
Detroit	68	81		12

West Division

	W	L	Pct.	GB
Oakland	83	65	.561	
Texas	80	70	.533	3
Minnesota	77	74	.510	6½
Chicago	73	77	.487	10
Kansas City	72	78	.480	11
California	61	90	.404	24½

Wednesday's Results

Cleveland 6, Milwaukee 2.
Boston 8, Detroit 5.
Baltimore 10, New York 4.
California 4-6, Texas 1-2.
Chicago 3, Minnesota 1.
Oakland 3, Kansas City 4.

Thursday's Games

Detroit (Ruhle 8-8) at Boston (Tiant 20-12), 6:30 p.m.
Baltimore (McNally 15-10) at New York (May 6-3), 7 p.m.
Oakland (Blue 15-13) at Kansas City (Briles 3-6), 7:30 p.m.
Only games scheduled.

Friday's Games

Detroit at Milwaukee, 7:30 p.m.
Cleveland at New York, 2, 5:30 p.m.
Baltimore at Boston, 7:30 p.m.
California at Minnesota, 7:30 p.m.
Oakland at Chicago, 9 p.m.
Kansas City at Texas, 9 p.m.

NATIONAL LEAGUE

East Division

	W	L	Pct.	GB
St. Louis	88	69	.557	
Pittsburgh	78	78	.527	11½
Philadelphia	73	76	.490	7
Montreal	71	78	.477	9
New York	67	82	.450	13
Chicago	62	86	.419	17½

West Division

	W	L	Pct.	GB
Los Angeles	92	66		
Cincinnati	91	69		2½
Atlanta	83	68		11
Houston	76	74		17½
San Francisco	68	83		26
San Diego	55	96		39

Wednesday's Results

Atlanta 4, San Francisco 2.
Chicago 8, Philadelphia 2.
Pittsburgh 4, St. Louis 1.
Montreal 3-4, New York 2-8.
San Diego 6, Cincinnati 3.
Houston 3, Los Angeles 2, 10 innings.

Thursday's Games

Chicago (Hooton, 5-11) at Philadelphia (Ruthven 9-12), 6:35 p.m.
St. Louis (Curtis 9-13) at Pittsburgh (Kison 7-8), 6:35 p.m.
San Diego (Freisleben 9-12) at Los Angeles (Sutton 16-9), 9:30 p.m.
Cincinnati (Norman 11-12) at San Francisco (Caldwell 13-4), 9:30 p.m.
Only games scheduled.

Friday's Games

Philadelphia at Montreal, 7:05 p.m.
New York at Pittsburgh, 7:05 p.m.
Chicago at St. Louis, 7:30 p.m.
Atlanta at Houston, 7:35 p.m.
San Diego at Los Angeles, 9:30 p.m.
Cincinnati at San Francisco, 9:30 p.m.

Create and have the students compute math problems using the baseball standings. The following examples are based on the standings shown in Figure 26:

- Compute the percentage for each team in the American League East and National League West.
- Place all American and National League teams in order based on the teams' won-lost records. Which team is first? last?
- Arrange the teams in the American League West and National League East in two alphabetical lists based on teams over .500 and teams under .500.
- Compute the total runs scored by American League teams on Wednesday; do the same for the National League. Which League scored more runs? How many more?
- List the teams that will start Thursday's games after 6:00 P.M. and after 9:00 P.M. (Milwaukee time). How many teams are playing afternoon games?
- Determine what pitchers for Thursday's games have the best records; the poorest records; no record. Identify each pitcher by name and by winning percentage.

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Making Filmstrips

Have two or three groups of students select a math area (e.g., decimals, fractions, multiplication, sets, etc.). After the groups have selected their areas, have the students outline the basic categories involved in the areas. For example, among categories in the "decimal area" the group might list:

- Meaning of the word "decimal" and the purpose of decimals;
- Changing decimals to common fractions;
- Changing common fractions to decimals;
- Adding and subtracting decimal fractions;
- Division with decimal fractions;
- Multiplying decimal fractions; and/or
- Percentages.

Each group should determine the basic operating principle/concepts/content for each category listed and ensure that all the group members understand these.

Once this has been accomplished, you should guide the groups in making a filmstrip for each area. The filmstrips should be designed so that they help the other students learn the appropriate math concepts and content.

You can purchase filmstrip kits for your students' use at educational supply stores. Most filmstrips have a dull side and a shiny side. Students can type or write with a #2 pencil on the dull side. A regular pencil eraser will erase both type and pencil on the film. A transparency pen can be used on the shiny side of the film. Water-based pen markings can be erased easily, but the colors will run if they become wet. Permanent markers can be erased with hairspray. Along the sides of the filmstrip are holes. Four holes equal one frame. Students will need to leave three frames (12 holes) at the beginning of the filmstrip for a lead-in.

Utilizing Peer Helpers

A peer helper is another student who can and will effectively communicate with the student with special needs. The peer helper can assist the student in any of the following ways:

- Making certain that assignment directions are clear.
- Reading important directions and essential material to the student and drilling the student orally.
- Orally summarizing important textbook passages.
- Writing down answers to previous tests and assignments.
- Working together with the student on joint assignments.

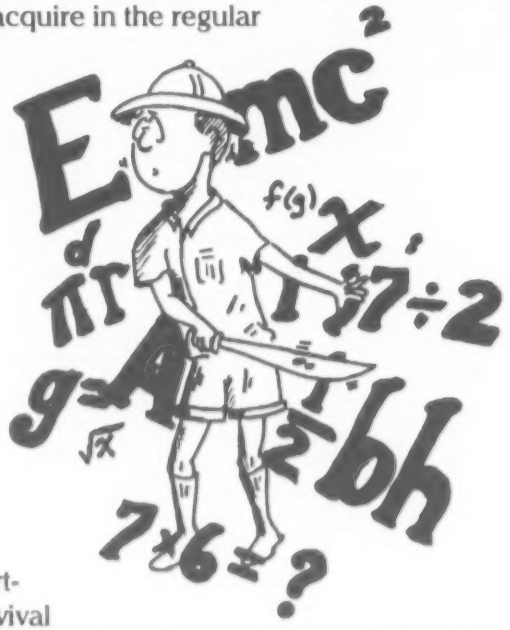
- Constructively criticizing the student's work and making suggestions for improvement.
- Volunteering as a lab partner to the student in classes with laboratory settings (e.g., home economics, chemistry).

Section 4

Survival Skills

Survival Skills

Many students need to be taught academic survival skills, as they often have not acquired them through normal channels. Survival skills consist of the sequential, structured, developmental skills that most students acquire in the regular classroom, in addition to self-help techniques (such as basic study skills) that enable students to process larger amounts of information. The survival skills most commonly utilized are in four basic areas:



- Reading
- Mathematics
- Language Arts (and its many applications, e.g., note-taking)
- Study Skills

This section will offer suggestions in each of these four areas to aid students in becoming successful in the regular classroom. Survival skills may be taught as both short- and long-term goals. The short-term goal of survival skills is for students to be successful in a regular classroom. The long-term goal is for students to be able to succeed in life. As students mature and progress through school, the emphasis will shift from the short-term to long-term goal.

Most academic survival skills are **taught** to students with special needs in the resource room or learning lab and are **applied** in regular content classrooms. However, the techniques detailed in this section may be used in the regular classroom.

Textbook Reading

Surprisingly, many students do not know how to read a textbook chapter efficiently. Although they can decode the words and gain some meaning, they do not gain a thorough comprehension of the material. One skill that may need to be taught to students is answering the questions found at the end of chapters. Students who do not know this technique are baffled at times by their inability to understand information that they've read. Teaching the following two techniques to students will enable them to study and read textbook chapters more effectively.

Answering Chapter Questions

Point out to the students that the questions at the end of the chapter are usually provided in the order in which their answers can be found within the reading material. This fact makes the questions easy for the students to answer, as follows:

1. Turn to the end of the chapter and read the first question.
2. Then turn to the beginning of the chapter and begin reading until you find the answer to the first question.
3. Write down the answer to the question.
4. Continue in this manner until all the chapter questions have been answered.

Remind the students to keep markers in the textbook where the questions are and where they are currently reading so they can find their place easily.

Using SQ3R With Textbooks

Another technique for reading textbook chapters effectively is the SQ3R method. Many variations of this study technique have been introduced over the years, but the basic procedures still survive, and can be presented to the students as follows:

- **Survey**

  1. Find the pages of your reading assignment. Try to guess how long it will take you to read and how long you can spend on it now.
  2. Study the title; change it to a question; think what the main words mean.
  3. Skim through the assignment, looking at:
     - Subheadings
     - Pictures
     - Charts, maps, graphs etc.
  4. Read the chapter summary, or the last paragraph.
  5. Read the questions at the end of the chapter.

- **Question**

  In surveying the reading assignment, you may find that the chapter does not include any questions. In this case, turn the headings or subheadings into questions. For example, "Thickness of the Ionosphere" would become "How thick is the Ionosphere?". When you start asking yourself questions, even more questions will come to mind. You will find that you are more interested in the assignment. You may want to write down the heading/subheading questions and some of your other questions, with their corresponding answers, to use as a study guide, like this:

Questions	Answers
1. How thick is the Ionosphere?	The Ionosphere, which runs from 80 km to 600 km above the earth, is approximately 520 km thick.

Remember, the longer you spend surveying and questioning, the easier it will be to read the assignment because you will understand it better.

- **Read**

  If a word's meaning is not clear to you by the way it is used in the sentence, write it down and look it up in the dictionary later. When you are reading, ask yourself, "What is the author trying to tell me? What is he/she trying to get me to think or do? Is he/she giving me the facts, or just his/her opinion?"

- **Recite**

  Now you can show yourself and your teacher what you have learned from reading the assignment. You can do this by answering questions in class, by writing a report about the content of the chapter, by outlining it, or by taking a test on it. Regardless of the method to be used, you should take brief notes after reading each part of the assignment or after finishing the entire assignment.

- **Review**

  It is important to review each part of the assignment just after reading it. Close the textbook and see how much you can remember. When you have finished reading the entire assignment, flip through the assignment and try to remember the important ideas of each part.

Paragraph Structure

The diagram shown in Figure 27 (Part A) can be used to teach students to write better paragraphs. (The diagram can also be extended for longer writing assignments.) It is helpful for students to use the diagram instead of an outline, since the diagram is more concrete. Students can later be taught to outline once they have mastered the use of the diagram.

The diagram could also be reproduced on cardboard in such a way that there would be pockets for each part of the diagram (see Part B). You could then provide the students with slips of paper, each containing an appropriate idea put into the appropriate pocket of the diagram. Students could then write the entire paragraph using the diagram structure and ideas provided.

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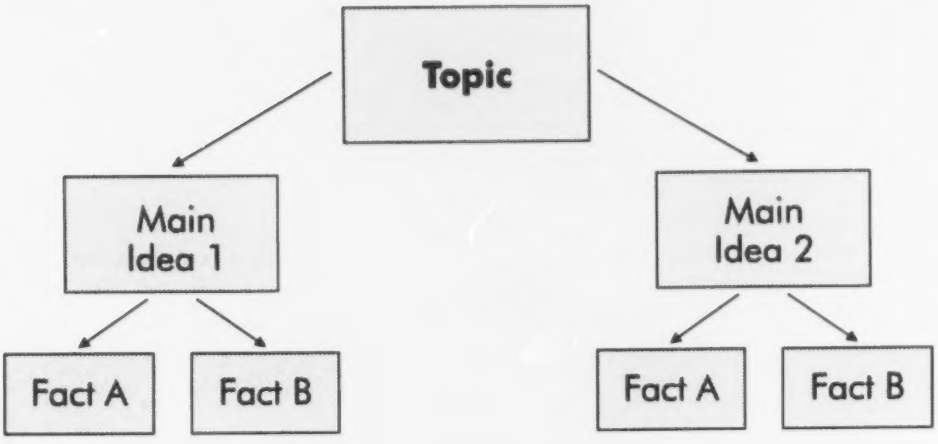
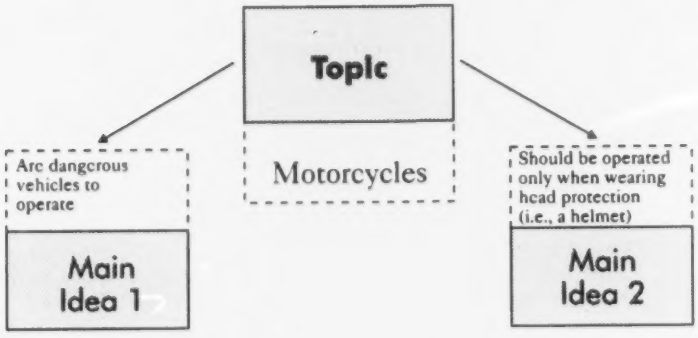
FIGURE 27

Part A



Part B


Topic
Motorcycles
Are dangerous vehicles to operate
Should be operated only when wearing head protection (i.e., a helmet)
Main Idea 1
Main Idea 2

Mathematics

Students who need survival skill instruction in mathematics usually require concrete, highly sequenced instruction. Mathematical learning is hierarchical in nature, with each new concept and/or function relying upon mastery of previous functions. Thus, students who have fallen behind in math often feel that they are merely moving numbers on paper without really understanding the processes.

Concrete materials are also necessary with many students—pictures and visualizations simply will not work. Although there are numerous commercial objects available for teaching mathematics, any small objects will do. Toothpicks are good manipulatives for whole number operations since they can easily be bundled for place value study.

Many students make errors because they do not follow the correct sequence in working problems. Flowcharts are especially helpful for these students. Students first learn to follow the flowchart as each step is performed, and soon the need for the flowchart no longer exists. Sample flowcharts for addition, subtraction, and division are provided in Figures 28, 29, and 30, respectively. These could be simplified for students, if required. Flowcharts could also be created for fractions, measurement, etc.

FIGURE 28
Addition

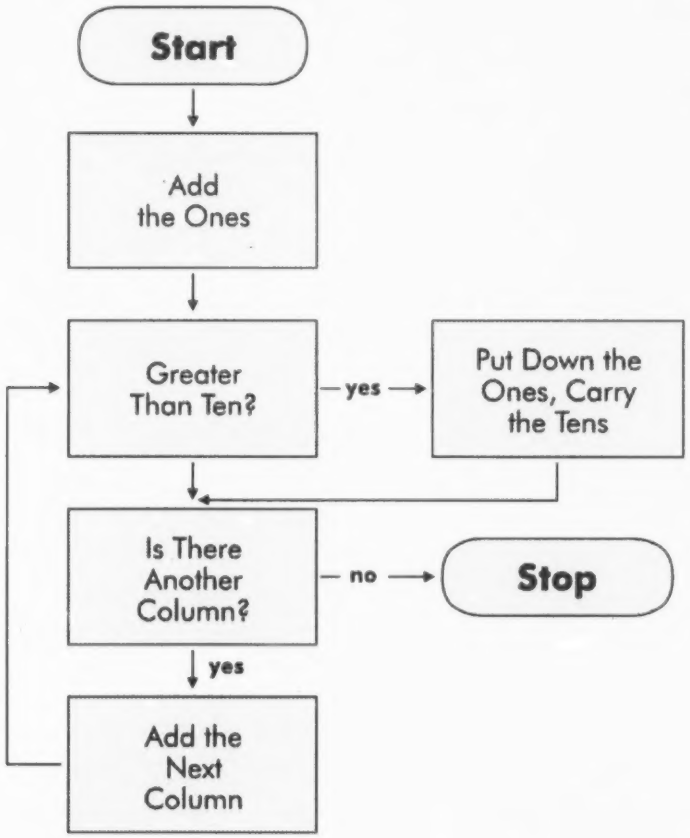


FIGURE 29
Subtraction

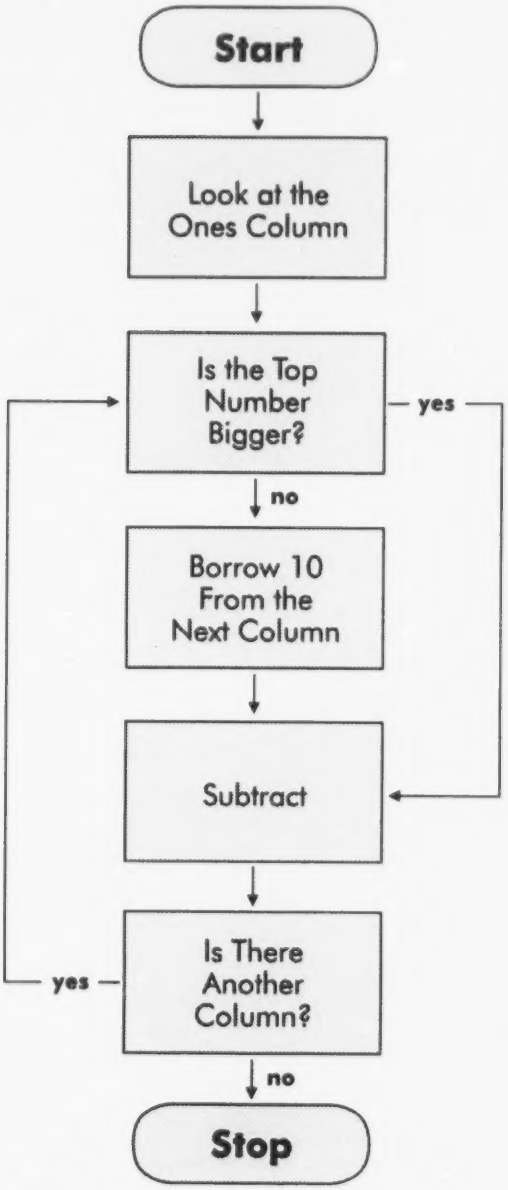
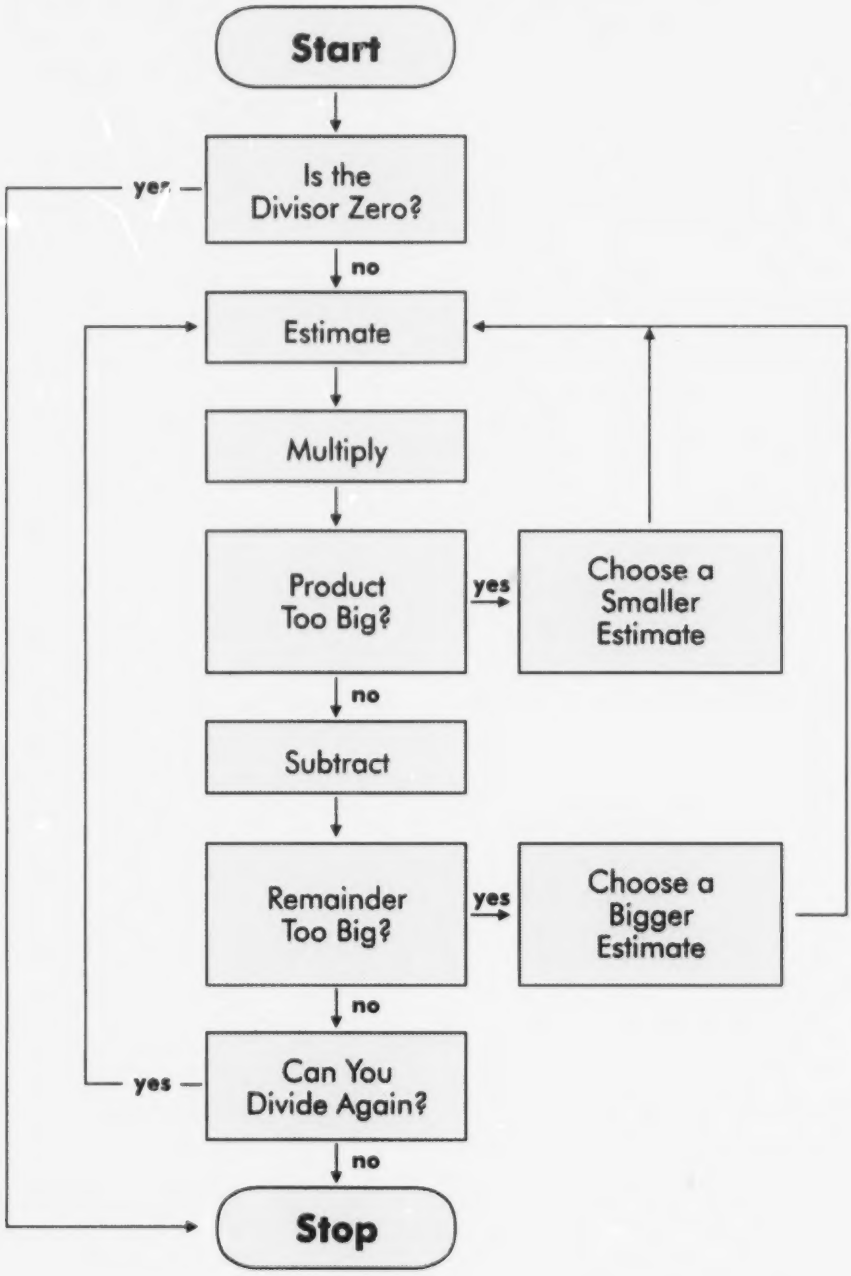


FIGURE 30
Division



Following are three other practical activities for teaching mathematics survival skills.

Bank Forms

Visit your local bank and ask for classroom quantities of the various forms a person might use at a bank (e.g., savings withdrawl slips, checking deposit slips, loan application forms, etc.). Distribute these to the class and review each form so the students learn how to fill out the forms. You might later arrange a field trip to the bank to find out how each form is processed.

Insurance Forms

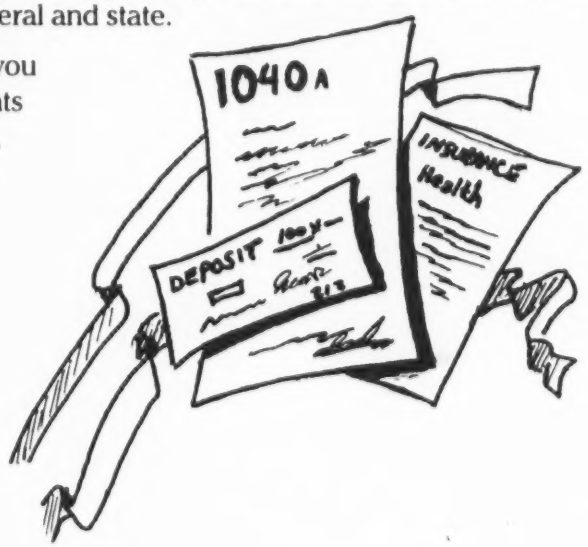
Collect a number of sample insurance policies from local insurance companies. Discuss with the class the purpose of different kinds of insurance (e.g., life, home, car, etc.). Select a policy and discuss some of the terms of the policy such as the deductible, liability, etc.

Income Tax Forms

Distribute a blank 1040, 1040-A, or 1040EZ IRS form to each student in your class. Find out from the students whether they know who must file the form, which form should be used, when the form should be filed, etc.

Review each item on the form and have the students fill in what they can (e.g., their name, address, filing status, number of exemptions). Discuss the meaning of each item on the form, such as dividends, interest, adjusted gross income, etc. Also discuss the **purpose** of income taxes—both federal and state.

As an extension to this activity, you might want to have groups of students investigate other kinds of taxes (e.g., gift, inheritance, etc.).



Suggestions for Taking Notes

Students often do not know how to organize their notes on paper. The note-taking formats shown in Figures 31 and 32 help students to organize their note-taking and enables them to easily use their notes for study.

FIGURE 31

Page Reference	Vocabulary	Notes	Summary or Review

Using the format shown in Figure 31, students use the middle portion of the page to take notes during class lectures. The right-hand column provides space for the students to summarize their notes immediately after class or after school; or this portion can be used to record additional information from class review before a test. Textbook page references for content covered and important vocabulary words and their definitions from the lecture or text can be listed in the left two columns.

FIGURE 32

Page Reference	Notes	Sample Questions/Answers

The format shown in Figure 32 features a column to record sample questions and answers taken from the lecture or text; or the student takes notes, then as a study review, makes each pertinent statement into a question. These questions, when answered, help highlight important material.

Some **general considerations for effective note-taking** include:

- Students can be helped to organize their thoughts and notes by providing them a clear, concise outline format (e.g., those shown in Figures 31 and 32).
- Students should keep their notes brief and pertinent.

- Students should use clues to identify important topics in lectures which should be recorded (e.g., material written on the board, repetition of a word or phrase).
- Students should use abbreviations (w/, etc., i.e., e.g. lb., #) in their notes whenever possible.
- Students should use indentions to separate major and minor points in their notes.
- Students should always remember to date and page number their notes.
- Students should review their notes soon after they are written.

Instant Study Skills

Many students do not know how to study. Moreover, they are expected to learn to study without being taught how to do it. The first week of the semester is the perfect time to teach students study skills. They require little time investment by the students, and will be extremely helpful to them.

The following pages, to the end of this section, present some essential study skills for students, including classroom and test-taking tips. These pages are **written directly to the student**, and can be **distributed to students as a handout packet**.

Student Handout—page 1

Study Skills

Here you have a set of instant study improvement techniques. Each of them is designed to improve your grades and make studying a little bit easier without any extra time devoted on your part. These techniques certainly can't hurt you. And as long as you have to put the time in anyway, why not?

In the Classroom

Sit as close to the teacher as you dare on the first day of class.

Do you know that students who sit closer to the teacher get better grades? Perhaps that's true because often the students who choose to sit closer to the front are the more serious students (they would get good grades no matter where they sat in the classroom). However, there is some evidence that regardless of ability, students can increase their chances for a good grade by sitting closer to the teacher. The closer you sit, the fewer visual distractions there are. The fewer the distractions, the easier it is to concentrate and to take notes. And to cap it off, you are much less likely to daydream, read a paper, or write letters if you are under the instructor's eye. So, sit as close as you dare. If the seating is assigned, wear glasses and plead near-sightedness. Just get up front.

Why would you sit there on the first day? Because students are creatures of habit. You tend to use the same seat automatically. Did you ever notice that you step over the same feet and bump into the same knees going to your seat every day? Seating position tends to be a habit. Use it to your best advantage. Sit down front, and establish the habit early.

Review previous class notes occasionally.

Let's be honest, everyone gets bored occasionally in class, even the teacher. If you're bored in a lecture, don't doodle in your notebook or write letters. Flip through your previous notes. You are in the classroom anyway, so you may as well be productive. Looking over previous notes may generate some interest and help get you back on track with the lecture. Even if the teacher continues to "ramble" and you continue to be disinterested, reviewing previous notes will be a good way to get ready for upcoming examinations. The more review you do, the more material you will retain for later use on exams.

Copy down almost everything on the board, regardless.

Did you ever stop to think that every chalkboard scribble may be a clue to an exam item? You may not be able to integrate what is on the board into your lecture notes, but if you copy it, it may serve as a useful clue for you later in reviewing. If what the teacher says doesn't seem to agree with what he/she has written on the chalkboard, or if you can't see how it relates, jot down a word or two from the board in the margin of your notes. A single word may be useful to you later. If not, you haven't wasted anything. You were in the classroom anyway.

Study and Concentration

Try to find a place for study and nothing but study.

Do you have a place for study you can call your own? As long as you are going to study, you may as well use the best possible environment. Of course, it should be reasonably quiet, and relatively free of distractions like the radio, TV, and people. (But that is not **absolutely** necessary. Several surveys suggest that 80% of a student's study is done in his/her own room, not in a library or study hall.)

A place where you are used to studying and not doing anything else is the best of all possible worlds for a student. After a while study becomes the appropriate behavior in that particular environment. Then whenever you sit down in that particular niche in the world, you'll feel like going right to work. Look at it this way, when you come into a classroom you sit down and go to work by paying attention to the teacher. Your attitude, attention, and behavior are automatic because in the past the room has been associated with attentive listening and not much else. If you can arrange the same kind of situation for the place where you study, you will find it easier to sit down and start studying.

Before you begin an assignment, write down on a sheet of paper the time when you expect to be finished.

This one step will not take any time at all. However, it can be extremely effective. It may put just the slightest bit of pressure on you, enough so that your study behavior will become instantly more efficient. Keep the goal sheets as a record of your study efficiency. Try setting slightly higher goals on successive evenings. Don't try to make fantastic increases in rate. Just push the goal up a bit at a time.

Student Handout—page 3

If your mind wanders, stand up and face away from your books.

Don't sit at your desk staring into a textbook and mumbling about your poor will power. If you do, your textbook soon becomes associated with daydreaming and guilt. If you must daydream, and we all do it occasionally, get up and turn around. Don't leave the room. Just stand by your desk, daydreaming while you face away from your assignment. The physical act of standing up helps bring your thinking back to the job. TRY IT! You'll find that soon just telling yourself, "I should stand up now" will be enough to get you back on track with your assignment.

Stop at the end of each page and count to ten slowly when you are reading.

This is an idea that may increase your study time, but it will be quite useful to you if you find you can't concentrate and your mind is wandering. If someone were to ask you, "What have you read about?" and the only answer you could give is, "About 30 minutes," then you need to apply this technique. But remember, it is only useful if you can't concentrate, as a sort of emergency procedure.

Flip through your reading or assignment quickly before you go on to something else.

Few students realize that a short, immediate review is their very best study time investment. This one step may take a tiny bit more time. However, you will find that the few minutes you spend flipping through a completed assignment before you start something new will aid you tremendously in retaining the material for future review. Research indicates that a brief review at the end of a study assignment is much more efficient than the same amount of time spent in review later on. The immediate review is terribly important.

Underlining

Never underline a whole sentence.

Many students underline as they are reading. They underline whole sentences and in some cases, whole paragraphs. For the most part, they are wasting their time. If you underline (and a research study indicated that this is the most efficient way to take notes), underline only after you have read the material. Go back and pick out a few words that summarize the author's main point. Never underline a whole sentence. If you do, you will not be forced to select from the material that seems most important to you.

Tips on Taking Exams

When you take an examination, do the easy questions first.

This is a good technique whether you are writing an essay test or answering questions. Research has shown that tackling easy items first on a test tends to produce better results than doing the difficult items first on the same test. So skim over the test and find where to begin. On an objective test, don't spend a lot of time worrying about a tough item. Skip it and come back to it later. On an essay test, write the easy items first but leave plenty of space so that your answers will be in the correct sequence.

On an essay test, write down something for every item.

Be sure to read the directions. You may be asked to write only part of the items. Then, for each item you select, write something. Don't leave any item blank. The worst that can happen is that you get a zero for the question anyway. But if you write down something—maybe even a little wild and apparently unrelated—you may pick up a few points.

On an essay test, be neat.

Some informal research indicates that to many teachers a neatly written paper is worth about one letter grade more than the exact same paper written in a sloppy, messy sort of way. Look at it this way: You are an instructor and you have read through 30 or 35 essay exams. You are just naturally going to be a little more sympathetic to the student who makes your job easier by writing neatly and clearly. So for an essay test, do the best you can to make the teacher's reading more pleasant. The teacher will probably repay you for your effort.

On objective tests, if you change your mind, change your answer!

Many students think that their first answer to a test item is somehow magically the best. On the basis of that unfounded belief, they rarely change their answers. Perhaps you, yourself, have changed your response to an objective item and found out later that you were wrong. That was such an uncomfortable event that you couldn't forget it. "Never again," you tell yourself, "I'll stick to my first choice." But you probably also changed answers many times and got them right. However, doing that was such a reasonable thing that there was no reason to remember it.

As a matter of fact, the question of whether or not to change answers has been carefully researched. All of the studies, over decades, are quite consistent. They indicate that on the average you can expect to pick up more points that you will have lost by changing answers. So if you change your mind, change your answer.

Perhaps you want to test out this suggestion. If so, you need only to keep careful track of your changes. Check with your answer sheet later to find out how many points you gained and how many points you lost by the changes. Then in the future you can be guided by data, not superstition.

Tips for True-False Tests

Do you panic or feel confused when faced with a true-false test? Would knowing some "tricks of the study skills trade" make you feel more confident? Then learn the strategy below and apply it during your next true-false test.

SCORER is an acronym for a series of steps that can improve your ability in passing and/or raising your grade on true-false tests. SCORER stands for:

- S = **SCHEDULE Your Time**

  At the beginning of the test, estimate quickly how much time you can allow for each question. Stick to this estimate. Don't get hung up on just one difficult item. (To estimate time, divide the available test time by the number of questions, such as 60 minutes ÷ 60 questions = 1 minute per question.)

- **C = CLUE Words**

  Paying attention to clue words in true-false statements can help you choose the correct answer even when you are unsure of the subject matter:

  - Statements are usually false when they contain clue words which indicate that the statement must always be true with no exceptions. (Such words include: all, every, none, always, invariably, never, best, exactly, worst.)
  - Statements are usually true when they contain clue words which modify the absoluteness of the statement. (Such clue words include: many, most, some, few, often, usually, sometimes, seldom, more, equal, less, good, bad.)
  - Watch out for statements that are really definitions, such as: "All triangles have three sides." (This is a true statement: be careful of these statements in science and math areas.)

- **O = OMIT Difficult Questions Until Last**

  Answer the easy questions first as you go through your test and place a mark by the doubtful statements. This action will help you stick to your time schedule; will ensure your receiving points on all the items you know; and may trigger your memory when going back to answer the doubtful statements on the test. Repeat this procedure until all the questions are answered. (***Hint:*** *On tests that count only the correct answers in the score or for tests that do not penalize for wrong answers,* ***always*** *give an answer. The percentages are on your side for picking up some points even through guessing.*)

- **R = READ Each Question Carefully**

  Reading each true-false statement carefully (and the test instructions) can sometimes make or break your test score:

  - Remember to interpret true-false statements as they are stated. Don't become emotionally involved with statements so that you are reading more into the statement than there is.
  - Also remember that **all** parts of true-false statements must be completely true or false.

- **E =ESTIMATE Answers (Use Intelligent Guessing)**

  Most objective tests are scored by counting only your correct answers. (But be sure this is the way your test will be scored before applying the intelligent guessing strategy.) When you must guess, use all the tips you have learned so far about true-false tests, especially about clue words.

- **R = REVIEW Your Work**

  In your estimated schedule of time to spend on each test question, you should have also allowed a few minutes in which to look back over the entire test. Don't ever leave a test before you must. Check each of your answers—you may have made a careless mistake, but don't change your answers unless you have a good reason.

Tips for Multiple-Choice Tests

- Read through the test quickly, answering only questions that you are sure about. (Many times clues to answers can be found in other questions.)
- Read the entire question and all the possible answers. Sometimes the last answer is the best answer even though other answers might work.
- Read all possible answers, marking through the first letter of those you are pretty sure are not correct. Usually a multiple-choice question will have one correct answer, two that are distractors, and one that is definitely wrong.
- Locate the distractors. Sentences with the words "always," "never," "none," and "all" are often distractors—but not every time. Be careful.
- If you can find one or two of the distracting answers to a question, then look closely at them as they may give you the clue to the correct answer. Ask yourself, "What makes this a distractor?" and then select the "best" answer.

- If you have two answer options that you feel are equal, select one and write a brief rationale for your choice in the margin—this is usually good for extra credit, even if the answer is wrong.
- If you change your mind, change your answer on multiple-choice tests.
- On **standardized** tests, leave unknown questions until last. If you have time, count the number of As, Bs, Cs, and Ds you've already answered. Usually there will be an equal number of each, and odds are that if you have fewer of one letter that will be the one you should tend to select on the remaining questions.
- Never leave a multiple-choice question unanswered. You have at least a 25% chance of getting it correct just by accident. If you can eliminate two choices, you are just as likely to get it right as you are to get it wrong.
- When in doubt, guess B or C. Teachers often try to "hide" the answer.

Tips for Essay Tests

Before the Test

- Try to predict and practice writing the answers to questions that you think will be asked. (Chapter titles and subheadings can be a good source for possible questions.) Check your notes: What topics did the teacher emphasize?
- Essay questions usually contain such clue words as:
  - Trace
  - Discuss
  - Illustrate
  - Define
  - Evaluate
  - Compare and Contrast

  Study the list of clue words and their meanings on page 9 of this handout.
- Know the course jargon. Study the spelling of words that you might use in your answers.

During the Test

- Take a good writing utensil to class. (Teachers appreciate dark lead or ink they can see.) Watch your handwriting, spelling, and writing mechanics during the test.
- Read quickly through all the questions before beginning to write. Estimate the time you can allow for each question.

- Plan to answer all the questions that you know first. Begin each answer on a separate page, keeping them in order.
- Read the general test instructions. (You may have options as to how many questions you must answer.)
- Be sure to read each question carefully to determine what is really being asked. Sketch an outline in the margin or on scrap paper making sure that all the important points are included in your answer and that they follow a logical order.
- Avoid answers that begin: "It is when . . ." and "It is because . . . ." (Who knows what "it" is referring to?)
- When writing your essay answers, start a separate paragraph for each of the main ideas or statements within one essay answer. Put your details and examples under their respective main ideas. This aids organization and writing mechanics.
- Read over your paper before you turn it in. Check for completeness in expression and ideas and for mechanical errors.
- Use all of your test time. Leave only when the teacher makes you.

After the Test

To improve your test-taking skills, go over all returned papers carefully. Observe your shortcomings and mistakes so that you will not make the same ones on later tests.

List of Essay Clue Words and Their Meanings

Essay questions contain clue words that tell you the kind of information your teacher wants. Improve your test-taking capabilities by studying the following list of clue words and their required actions.

Student Handout—page 9

Clue Word	Action Required
Analyze	To find the **main ideas** and show **how they are related** and why they are important
Comment On	**To discuss, criticize, or explain** its meanings as completely as possible
Compare	To show both the **similarities and differences**
Contrast	To compare by showing the **differences**
Criticize	To give your **judgment** or reasoned **opinion** of something, showing its **good and bad points**. It is not necessary to attack it.
Define	To give the formal **meaning** by distinguishing it from related terms. This is often a matter of giving a memorized definition.
Describe	To write a **detailed account** or verbal picture in a **logical sequence** or story form
Diagram	To make a **graph, chart, or drawing**. Be sure you **label it** and add a **brief explanation** if it is necessary.
Discuss	To describe, giving the **details** and explaining the **pros and cons**
Enumerate	To list. Name and list the **main ideas** one by one. Number them.
Evaluate	To give **your opinion** or an **expert's opinion** of the **truth** or importance **of the concept**. Tell the **advantages and disadvantages**.
Illustrate	To explain or make clear by **concrete examples, comparisons, or analogies**
Interpret	To give the **meaning** using **examples and personal comments** to make it clear
Justify	To give a statement of **why you think it is so**. Give **reasons** for your statements or conclusion.
List	To produce a **numbered list** of words, sentences, or comments. Same as enumerate.
Outline	To give a **general summary**. It should contain a series of **main ideas** supported by secondary ideas. **Omit minor details. Show** the **organization** of the ideas.
Prove	To show by **argument or logic** that it is true. The word "prove" has a very special meaning in mathematics and physics.
Relate	To show the **connections between** things telling how one **causes or is like** another.
Review	To give a **survey or summary** in which you look at the **important parts** and **criticize** where needed
State	To describe the **main points** in **precise** terms. Be **formal**. Use **brief, clear sentences. Omit details** or examples.
Summarize	To give a **brief**, condensed account of the **main ideas. Omit details** and examples.
Trace	To follow the **progress or history** of the subject

This list is too long for most students to memorize, but **try to remember the seven most often used clue words**:

- Compare
- Contrast
- Criticize
- Define
- Describe
- Discuss
- List

Study Plan for the Test-Wise

Start with an overview of remaining study tasks—schedule your time accordingly.

Overview all the materials for each of your classes. Evaluate and list priorities among remaining study tasks and estimate the amount of time needed for each. How do your notes, the text, and the supplementary readings (if any) relate? How much weight will be given to each exam? How will you, therefore, apportion your time among your unfinished reading, review of reading and notes, identification of major themes and issues, etc.?

Then sketch a rough "calendar" of the weeks, days, and hours remaining before each exam and plot a chart of the hours actually available for study. Objectively and realistically apportion your remaining tasks into these hours, taking into consideration these tips for scheduling:

- Break large tasks into more workable subgoals and apportion specific time for each.
- Allow longer study periods for grasping total relationships and concepts; use shorter time intervals for review, self-testing, and reinforcement. Routinely use odd moments (e.g., waiting for the bus, while walking to the library) for periodic recall and review.
- Do the difficult tasks first, then reward yourself with easier ones.
- Take brief breaks; don't study all the time. Daily physical exercise is especially important.
- Vary the tasks and topics during lengthy study periods. Rework some notes, then read; alternate history with math, etc.
- Find a special place to study and use it only for that. Make the place become a stimulus just to study; if you're daydreaming and not studying, then walk away for a few minutes.
- Stick as much as possible to your own regular study hours. Adhere to your own biological clock of peak study times rather than adopting someone else's (sometimes bizarre) schedule.

Student Handout—page 11

In essence, avoid the "escape" syndrome of fretting and talking more about studying than actually studying. Simply make a realistic appraisal of your priorities regarding what's got to be done, how much time there is to do it, and when you will do it. **Then DO IT.**

Plan your reading time.

Shortly after you have gathered all the material for a class together and plotted the overall organization of your study time, you should dig into the unfinished reading. You'll have a much better perspective from which to approach it.

Preview the materials. Divide the reading into realistic parts and subgoals. Set time limits for each part and begin.

Read. Hold yourself to the time you've set, even if you must skim key sentences only. It's better to get some information than none. Pace yourself by moving a card or pencil down the page as you read.

Recall the material read by immediately self-testing at the end of each page or part. This enhances retention even without later review.

Review actively, not passively.

Rework your notes and the text into one "whole" so that you'll be aware of the forest before concentrating on the trees. Arrange major points chronologically or topically. Construct overall diagrams, charts, or outlines.

Don't waste your time passively rereading. Instead, review the table of contents or the chapter subheadings; try to recall the important points. Recite them, write them, say them, hear them, think them. Reinforce by using as many of your senses as possible. Spend more time actively reciting and less time just rereading.

"Looking over" class materials is easy, comfortable, temporarily reassuring, and usually wasteful of your review time. While it may be gratifying to discover that terms or text look familiar, this sight recognition is seldom sufficient for good performance on a test. You must instead find a variety of ways in which you can test yourself as you review. Reciting is one of the most powerful ways to learn and remember. Constantly practice restating, repeating, and putting into your own words what you've just learned.

Anticipate exam questions and practice answering them under typical test time limits. Waiting for the teacher to raise the questions in the exam does not lead to a well-ordered plan of attack on the content of the course. Choose the questions you would ask if you were planning the exam, then practice synthesizing by pulling together your own answers to these questions. Refer to earlier exams in the course to get an idea of the kinds of question that will be asked. Reviewing with other students at this point might also be helpful if they already "know" the material.

Student Handout—page 12

Utilize effective test-taking techniques.

- Give yourself the advantage of a good head start. Arrive with enough time to arrange your working conditions and build a calm, alert attitude.
- Avoid getting involved in a last-minute cram session with panicky classmates.
- Preview the whole test quickly (for format, point distributions, missing pages, etc.).
- Have your teacher clarify any ambiguities in questions before attempting to answer them.
- Plan a time schedule for each question or section—it's your responsibility to attempt all the questions in the time allowed.

Appendix

Americans with Disabilities Act (ADA) Compliance Checklist

General

- ❑ Develop and disseminate information on the ADA, including information in accessible formats
- ❑ Designate responsible official(s) to assure that programs are in compliance with the ADA
- ❑ Develop grievance procedures
- ❑ Seek input from individuals with disabilities and organizations representing them

Self-Evaluation

- ❑ Determine whether there is any exclusion or limits on participation by individuals with disabilities:
  - Modify policies and practices where doing so does not substantially interfere with operation of a program, service, or activity
  - Justify any policies or practices that exclude individuals with disabilities (where appropriate)
- ❑ Review and modify (where necessary) policies and practices that exclude former drug users from participation in programs or access to services
- ❑ Ensure that communication with disabled students, faculty, parents, participants, and members of the public occurs in a manner that is as effective as communication with others
- ❑ Ensure that provisions for providing auxiliary aids or services to assist students with visual, hearing, or manual impairments are made:
  - Methods for securing aids and services are in place
  - Guidance on the provision of aids and services has been developed and disseminated
- ❑ Ensure that people with disabilities can access public meetings
- ❑ Review procedures for evacuating individuals with disabilities during an emergency
- ❑ Review written and audiovisual materials to ensure that individuals with disabilities are not portrayed in an offensive or demeaning manner
- ❑ Ensure that when a decision is made to deny access to individuals with disabilities, it is made properly and promptly
- ❑ Ensure that employment practices comply with ADA nondiscrimination requirements
- ❑ Ensure the employees are familiar with policies and practices for full participation by individuals with disabilities

Complaint and Enforcement Procedures

Public educational institutions that are found guilty of discrimination can lose all of their federal funds. Private educational institutions found guilty of discrimination can be required to pay actual damages and federal fines of up to $50,000 for the first offense and $100,000 for subsequent offenses. Both public and private educational institutions that lose in court have to pay all attorney fees.

Schools are expected to comply with the Americans with Disabilities Act (ADA) Section 504, but federal agencies will not conduct general compliance monitoring. Instead of monitoring guidelines, individual complaints will be investigated by the U.S. Department of Education's Office of Civil Rights. This puts the educational institution in the position of policing its own actions and policies. The financial cost of violation will be extremely high.

Part B of the Individuals with Disabilities Education Act (IDEA) contains provisions for compliance reviews and allows either parents of disabled students or school officials to file a discrimination complaint. Section 504 only allows disabled individuals or their representatives to file complaints. All state educational agencies that receive Part B funds must allow and encourage periodic compliance reviews and fiscal audits. The U.S. Department of Education conducts these reviews to ascertain that state and local educational agencies are complying with the programmatic and fiscal requirements of Part B.

To Answer a Complaint

- Document that all applicants and students are judged using the same criteria.
- Document that all applicants and students with the **same** educational needs and interests are **offered** the same opportunities.
- Document that the staff discussed accommodations and options with the applicant or student with disabilities.
- Document that the staff offered **reasonable** and **effective** options to the complainant.

The resource teacher may wish to receive periodic written reports from the regular classroom teachers. An appropriate time to ask for these reports is at the end of each reporting period. The following form has been used successfully for this purpose.

Report From Regular Class to LD Resource Room

Teacher _____ Room _____

Student _____ Subject _____

Grade This Reporting Period _____ Date _____

Was this student able to read class material? Yes ❑ No ❑

Did this student put forth effort in the classroom? Yes ❑ No ❑

Did this student complete home assignments? Yes ❑ No ❑

Are there any special problems with this student?

_____

_____

_____

Do we need a special conference? Yes ❑ No ❑

If yes, preferred date and time _____

Signature _____

By: South Carolina Region V. Educational Service Center.

Periodically, the resource teacher will need to see teachers in groups to discuss ongoing problems of learning disabled students in general and the problems being encountered by the students in their school specifically. The teachers as a group can discuss behaviors exhibited in different situations and also help generate suggestions for classroom adjustments suitable to individual student needs. A letter such as the following may announce such a meeting.

To: All Teachers

From: H.K. Boucher, Principal

On Wednesday, November 24, the LD Resource Teacher will hold a workshop for the regular classroom teachers. The workshop will be conducted all day, but each subject teacher will only attend during his/her planning period. We apologize for taking away your planning period for one day, but feel we have some practical suggestions for use with the learning disabled students in your class. We also need input from you as to appropriate classroom adjustments.

The coordination between the resource room and the regular classroom has been the major reason for the success of the LD program. We appreciate your cooperation thus far and look forward to seeing you Wednesday.

In addition to scheduled conferences and meetings and periodic written reports, the resource teacher should be as visible to regular classroom teachers as possible. He/she should "drop by" informally after school to say, "How are things going?"; "How is Tommy doing?"; etc. The resource room teacher must work extra hard and often times extra hours to keep up with each student, his/her regular classroom progress, and his/her resource room progress. By keeping teachers informed and "helping them to help students," the success of the total program will be greatly enhanced.

BEST COPY AVAILABLE

Behavioral Checklist

Student _____ Date _____

Teacher _____ Subject _____

	Yes	No
1. On Time		
2. Proper Materials		
3. Listening		
4. Appropriate Verbal Response		
5. Politeness		
6. Using Time Well		
7. Turning in Assignment		

Comments on Behavior:

Courtesy of *Bloomfield Hill Schools, Bloomfield, Michigan.*

Input for Placement Meeting

Student _____

Teacher _____

Hour You Have Student _____ Date _____

Please make brief comments on the following areas:

Attendance _____

_____

_____

Homework _____

_____

_____

Attitude _____

_____

_____

Grade to Date _____

General Comments:

Modifications

The following modifications may be necessary for _____ to succeed in a regular classroom:
(student's name)

- ❑ Mark the student's correct and acceptable work, not his/her mistakes.
- ❑ Examinations and quizzes should be given orally.
- ❑ Reading assignments should be presented on cassette tapes.
- ❑ Make arrangements for homework assignments to reach home with clear, concise directions.
- ❑ Reversals and transpositions of letters and numbers should not be marked wrong. Instead, reversals or transpositions should be pointed out for correction.
- ❑ Recognize and give credit for the student's oral participation in class.
- ❑ Provide extra test time.
- ❑ Provide extra assignment time.
- ❑ The student should be allowed to tape classroom lectures or discussions.
- ❑ The student should be allowed to copy another student's class notes.
- ❑ The student should be provided a copy of another student's class notes.
- ❑ Utilize peer tutoring.
- ❑ Utilize cross-age tutoring.
- ❑ Avoid placing the student under pressure of time or competition.
- ❑ Accept homework papers typed by the student or dictated by him/her and recorded by someone else, if need be.
- ❑ Do not return handwritten work to be copied over; papers are often not improved and the student's frustration is increased.
- ❑ Quietly repeat directions to the student after they have been given to the class; then have him/her repeat and explain the directions to you.
- ❑ Let the student dictate themes or answers to questions on cassette tapes.
- ❑ Accompany oral directions with written directions for the student to refer to (on the chalkboard or paper).
- ❑ Do not require lengthy outside reading assignments.
- ❑ The student should be permitted to print.

Modifications (continued)

❑ Other

_____

_____

_____

Tentative Criteria for Evaluation of the Student:

❑ The student is on the same grading system as other students.

❑ The student is on the same grading system, with these exceptions:

_____

_____

_____

❑ The student is on a pass/fail grading system.

❑ The student is on a pass/fail attendance system.

❑ The student should receive credit if his/her work is commensurate with his/her ability.

Diagnostic Information and Remediation Techniques

Teacher _____ Date _____

Student _____ Grade _____

Course _____ Period _____ Room _____

Present Placement/Program _____

I. Summary of Test Results

A. Academic Levels

	Grade Equivalent	Date Tested
Reading		
Math		
Spelling		
Written Expression		

B. Learning Style

Strengths:

Weaknesses:

II. Recommendations (Techniques):

III. Additional Comments:

Teacher's Signature _____

Sample Progress Report

Student _____ Teacher _____

Attendance: Good ❑ Poor ❑ Tardy ❑

Class Participation: Good ❑ Poor ❑

Comments _____

_____

_____

Assignment Response: Good ❑ Poor ❑

Past Due Assignments _____

_____

Grade (At This Time) _____

Conference or Assistance Requested _____

_____

_____

Sample Progress Report

Teacher _____ Date _____

This form is to evaluate _____
(student's)

performance in your room for the two-week period of _____.
(dates)

	Circle One							
Attitude	Always Acceptable	5	4	3	2	1	0	Never Acceptable
Brings Materials	Always Acceptable	5	4	3	2	1	0	Never Acceptable
Work	Always Acceptable	5	4	3	2	1	0	Never Acceptable

Please approximate grade to date: _____

If the student is having a specific problem, please describe: _____

_____

_____

_____

Additional Comments: _____

_____

_____

_____

_____

_____

This (or a similar) lesson plan is sent to a student's regular teacher when a progress report comes back with a low grade.

Lesson Plan

Teacher _____ Date _____

Student _____ Grade _____

Day	Regular Classroom Assignment
Monday	
Tuesday	
Wednesday	
Thursday	
Friday	

Please list book titles, pages, and other materials to be used. Attach all handouts. Include homework and make-up assignments where appropriate.

Weekly Assignment Sheet Example

Name Amber Jacobs **Week of** Oct. 26-30

Subject Social Studies (6th Grade) **Teacher** McSwain

Monday Read pages 114-126. Start reading in class—complete for homework. (This is Ch. 6)

Tuesday Discuss the chapter (pages 114-126). Work review questions on pages 126-127. Announce Ch. 6 test on Friday.

Wednesday Check review questions (pages 126-127). Discuss the questions and answers. Hand out study sheet on Ch. 6—complete for homework.

Thursday Check and give correct answers to study sheets, discuss. Test Friday from study sheets.

Friday Test—Ch. 6. (No homework for Monday.)

Weekly Assignment Sheet

Name _____ Week of _____

Subject _____ Teacher _____

Monday _____

_____

_____

_____

Tuesday _____

_____

_____

_____

Wednesday _____

_____

_____

_____

Thursday _____

_____

_____

_____

Friday _____

_____

_____

_____

Back-Up Weekly Schedule

Teacher _____ Class _____

Week of _____

1. Reading assignments _____

_____

_____

2. Weekly due dates for handouts, projects, and/or study sheets:

Handout/Study Sheet/Project	Due

3. Weekly test dates _____

_____

_____

_____

The Learning Center will see that the following things are done each week:

- Reading assignments taped or color coded.
- All study sheets and projects will be worked on with teacher or aide help for part of each back-up period—when possible. Some regular class assignments might be more pressing than others. **No Learning Center class work will be done during back-up periods. This is done for you and the student.**
- We will read tests to the student or students who have reading problems. Please send tests to us.
- We will attempt to discuss problems and progress as often as possible. **Communication is vital.**

Comments on student's work—problem areas:

Incomplete Sentence Test

Name _____ Age _____

Grade _____ Date _____

Directions:

Here is a list of sentences that have been started but not completed. You are to write an ending for each of these sentences. This is your chance to write exactly the way you feel. You may write anything you like, but it must be just what you think.

1. Today I feel _____
2. When I have to read, I _____
3. I get angry when _____
4. To be grown up _____
5. My idea of a good time is _____
6. I wish my parents knew _____
7. School is _____
8. I can't understand why _____
9. I feel bad when _____
10. I wish teachers _____
11. I wish my mother _____

Incomplete Sentence Test (continued)

12. Going to college _____

_____

13. To me, books _____

_____

14. People think I _____

_____

15. I like to read about _____

_____

16. On weekends, I _____

_____

17. I'd rather read than _____

_____

18. To me, homework _____

_____

19. I hope I'll never _____

_____

20. I wish people wouldn't _____

_____

21. When I finish high school _____

_____

22. I'm afraid _____

_____

23. Comic books _____

_____

24. When I take my report card home _____

_____

25. I am at my best when _____

_____

Incomplete Sentence Test (continued)

26. Most brothers and sisters _____

_____

27. I don't know how _____

_____

28. When I read math _____

_____

29. I feel proud when _____

_____

30. The future looks _____

_____

31. I wish my father _____

_____

32. I like to read when _____

_____

33. I would like to be _____

_____

34. For me, studying _____

_____

35. I often worry about _____

_____

36. I wish I could _____

_____

37. Reading science _____

_____

38. I look forward to _____

_____

39. I wish _____

_____

Incomplete Sentence Test (continued)

40. I'd read more if _____

_____

41. When I read out loud _____

_____

42. My only regret is _____

_____

I have checked the things I would like to know more about.

- ❑ Auto Mechanics
- ❑ Fairy Tales
- ❑ History
- ❑ Electricity
- ❑ Riddles
- ❑ Health
- ❑ Electronics
- ❑ Comic Strips
- ❑ Biographies
- ❑ Radio
- ❑ Cartoons
- ❑ Geography
- ❑ Television
- ❑ Animals
- ❑ Myths and Legends
- ❑ Woodworking
- ❑ Insects
- ❑ Jokes
- ❑ Printing
- ❑ Science
- ❑ Comic Books
- ❑ Aviation
- ❑ Transportation
- ❑ Indians
- ❑ Art
- ❑ Soap Box Derby
- ❑ Reptiles
- ❑ Music
- ❑ Race Cars
- ❑ The Circus
- ❑ Dancing
- ❑ Cars
- ❑ The Zoo
- ❑ Mysteries
- ❑ Baseball
- ❑ The Countryside
- ❑ Adventures
- ❑ Football
- ❑ Detectives
- ❑ Foreign Lands
- ❑ Basketball
- ❑ Space Travel
- ❑ Poetry
- ❑ Other Sports _____

  _____
- ❑ Cowboys
- ❑ Cooking
- ❑ Astronomy

Pringles™ Can Multiplication Cutout

	1		cut								
	6							cut			
	3				cut						
	7								cut		
	0	cut									
	5						cut				
	9										cut
	2			cut							
	8									cut	
	4					cut					

Pringles™ Can Multiplication Table

9		0	9	18	27	36	45	54	63	72	81
8		0	8	16	24	32	40	48	56	64	72
7		0	7	14	21	28	35	42	49	56	63
6		0	6	12	18	24	30	36	42	48	54
5		0	5	10	15	20	25	30	35	40	45
4		0	4	8	12	16	20	24	28	32	36
3		0	3	6	9	12	15	18	21	24	27
2		0	2	4	6	8	10	12	14	16	18
1		0	1	2	3	4	5	6	7	8	9

Pringles™ Can Addition Cutout

	1		cut								
	6							cut			
	3				cut						
	7								cut		
	0	cut									
	5						cut				
	9										cut
	2			cut							
	8									cut	
	4					cut					

Pringles™ Can Addition Table

0		0	1	2	3	4	5	6	7	8	9
9		9	10	11	12	13	14	15	16	17	18
8		8	9	10	11	12	13	14	15	16	17
7		7	8	9	10	11	12	13	14	15	16
6		6	7	8	9	10	11	12	13	14	15
5		5	6	7	8	9	10	11	12	13	14
4		4	5	6	7	8	9	10	11	12	13
3		3	4	5	6	7	8	9	10	11	12
2		2	3	4	5	6	7	8	9	10	11
1		1	2	3	4	5	6	7	8	9	10

Other Sopris Publications of Interest . . .

SMARTS

—Community Services and Dissemination Center

A companion piece to *Exceptions*, ***SMARTS*** is a collection of activities and techniques to help teach study skills to mildly disabled secondary students. Most successful students have developed some methods for learning. *SMARTS* provides students with strategies and techniques that will help them gather, record, organize, understand, remember, and use information presented in the classroom. *SMARTS* techniques include **S**tudying, **M**emorizing, **A**ctive Listening, **R**eviewing, **T**est Taking, and **S**urvival Skills.

Better IEPs

—Barbara Bateman

Better IEPs is a reference every administrator, advocate, school psychologist, special educator, and parent of a child receiving special services should have! This informative book provides educators and parents a powerful tool for writing an IEP that works for the child—one that is both legally correct and educationally useful.

Presented is a powerful three-step IEP process which is child-centered and individualized, rather than program-centered and routinized. The process draws upon Dr. Bateman's decades of experience in special education law. Through her clear interpretation of these laws, parents and educators are provided the confidence and "know-how" to develop IEPs that are worthwhile to educators, understandable to parents, pleasing to compliance monitors, and beneficial to the children.

Ideas for Inclusion

—Anne M. Beninghof

Across the country, schools are revising their educational strategies to include students with severe disabilities in the regular classroom setting. In response, teachers with little or no special education background are quickly trying to upgrade their knowledge base and skills in order to experience success with these students.

Ideas for Inclusion provides classroom teachers with 50 practical, easy-to-implement strategies for successfully integrating students with moderate and severe disabilities. The strategies are each just a few pages long, so they can be quickly referenced. Strategy areas include:

- Curriculum and grading modification;
- Classroom management;
- Working with peer tutors, parents, and para-educators;
- Facilitating friendships; and
- Many more!

In addition, *Ideas for Inclusion* provides a brief overview of the underlying philosophical principles and rationale for integration and a review of relevant terminology, so that teachers can quickly begin an informed effort to create a classroom environment that is inclusive of all students.

Armed with *Ideas for Inclusion*, the classroom teacher will feel more confident and comfortable about including all students in the learning environment. Its easy-to-read format makes it a terrific desk resource for the teacher who wants to quickly find and use a good idea.

Ideas for Inclusion is also helpful to others—special educators, administrators, parents, and related professionals—who are promoting and supporting inclusion in schools.

Continued

TGIF: But What Will I Do on Monday?

—Susan L. Fister and Karen A. Kemp

TGIF: But What Will I Do on Monday? is a powerful resource for educators, working either alone or collaboratively, to find alternatives for effectively responding to the increasing number of instructional challenges they face in their classrooms. *TGIF* provides solutions for meeting the needs of all students in any classroom setting.

TGIF contains a collection of practical accommodation techniques which respond to **needs encountered at four critical points in the instructional process**:

- **T**eacher-Directed Instruction
- **G**uided Practice Activities
- **I**ndependent Practice Activities
- **F**inal Measurement

These accommodation techniques are organized in a quick reference format as commonly asked questions, so that educators can simply identify the specific challenge they are facing, locate the most appropriate question under one of the four instructional component headings (either T, G, I, or F), and select one of the many relevant techniques listed. The accommodation techniques are also classified by the level of effort (either low or moderate) necessary for implementation.

TGIF provides a simple guide to making instruction more effective, so that each student is given the opportunity to learn in his or her own way within a caring classroom environment.

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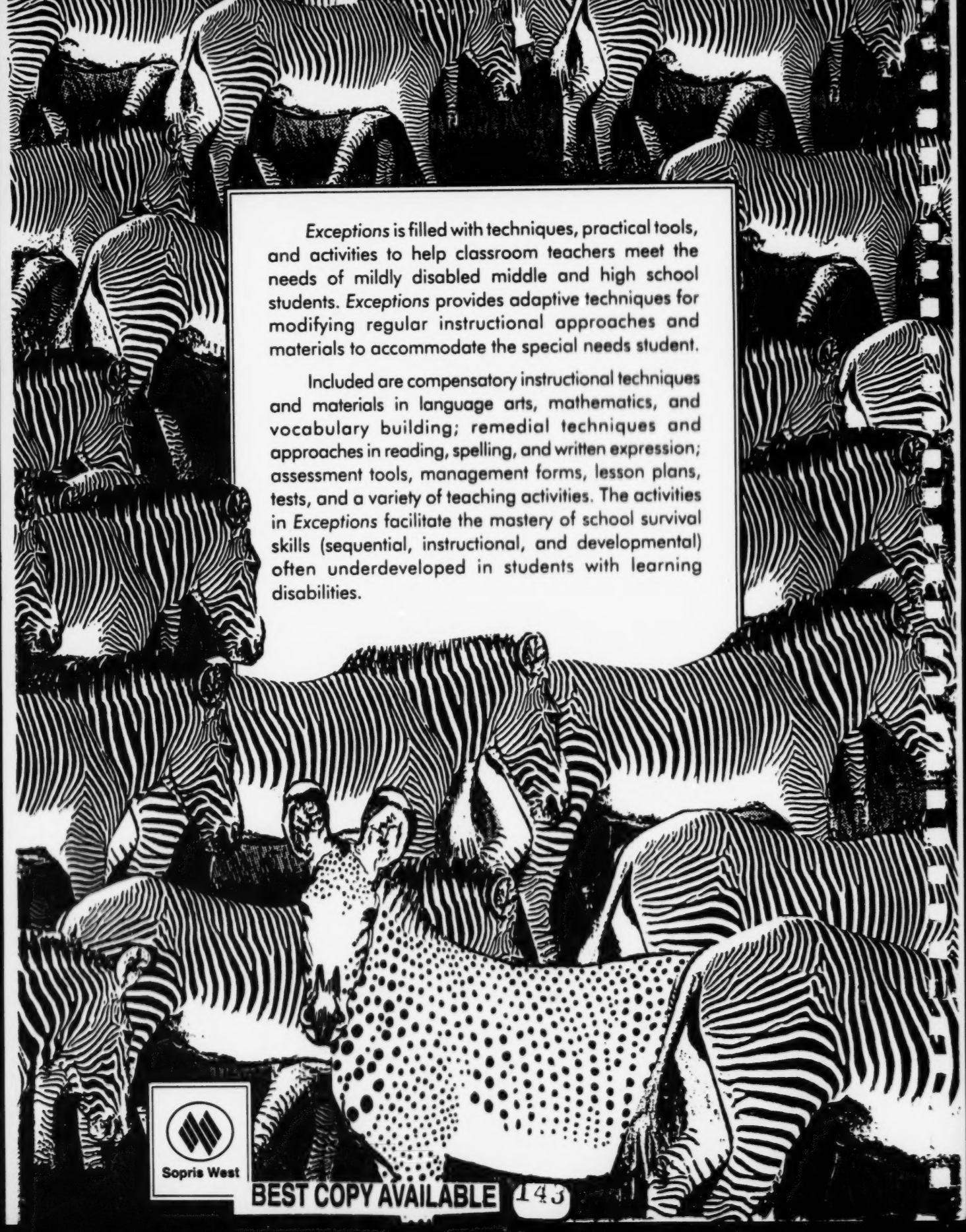

Exceptions is filled with techniques, practical tools, and activities to help classroom teachers meet the needs of mildly disabled middle and high school students. *Exceptions* provides adaptive techniques for modifying regular instructional approaches and materials to accommodate the special needs student.

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